

Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent.



Title Schematic Block Diagram2		
Size B	Document Number JM2	Rev 11A
Date: Tuesday, August 12, 2003	Sheet 2 of 51	

INDEX

Pg#	Description	DNI LIST
1	Schematic Block Diagram 1	
2	Schematic Block Diagram 2	
3	FRONTPAGE	
4-5	Banias	
6-8	Odem MCH-M	
9-11	ICH4	
12-13	DDR SO-DIMM(200P)	
14	CLOCK GENERATOR	
15-17	M7/M9 Graphics	
18-19	LCD CONN,CY25245 & CRT CONN	
20	IDE (HDD&CD_ROM)	
21	PAD& SCREW	
22	O2_OZ711E1&CONN	
23-24	MINI-PCI & MDC CONN	
25-26	SIO	
27-28	SERIAL & PARALLEL	
29	FLASH	
30-31	TOUCH PAD & SWITCH&LED	
32	FAN & THERMAL	
33-34	AC97 CODEC & connector	
35-36	LAN(KENAI32-LAVON) & JACK	
37	FIR	
38-39	DOCKING Buffer and connector	
40	Reset circuit	
41	RTC BATTERY	
42-43	Battery Selector & Charger	
44	CPU Power	
45	1.2V, 1.5V, 1.8VS.2.5VS	
46	D/D Power	
47	RUN POWER SW	
48	VGA DC/DC	
49	DCIN,Batt	
50	CPU I/O Power	

Power & Ground

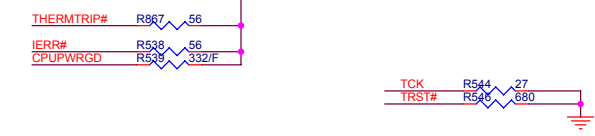
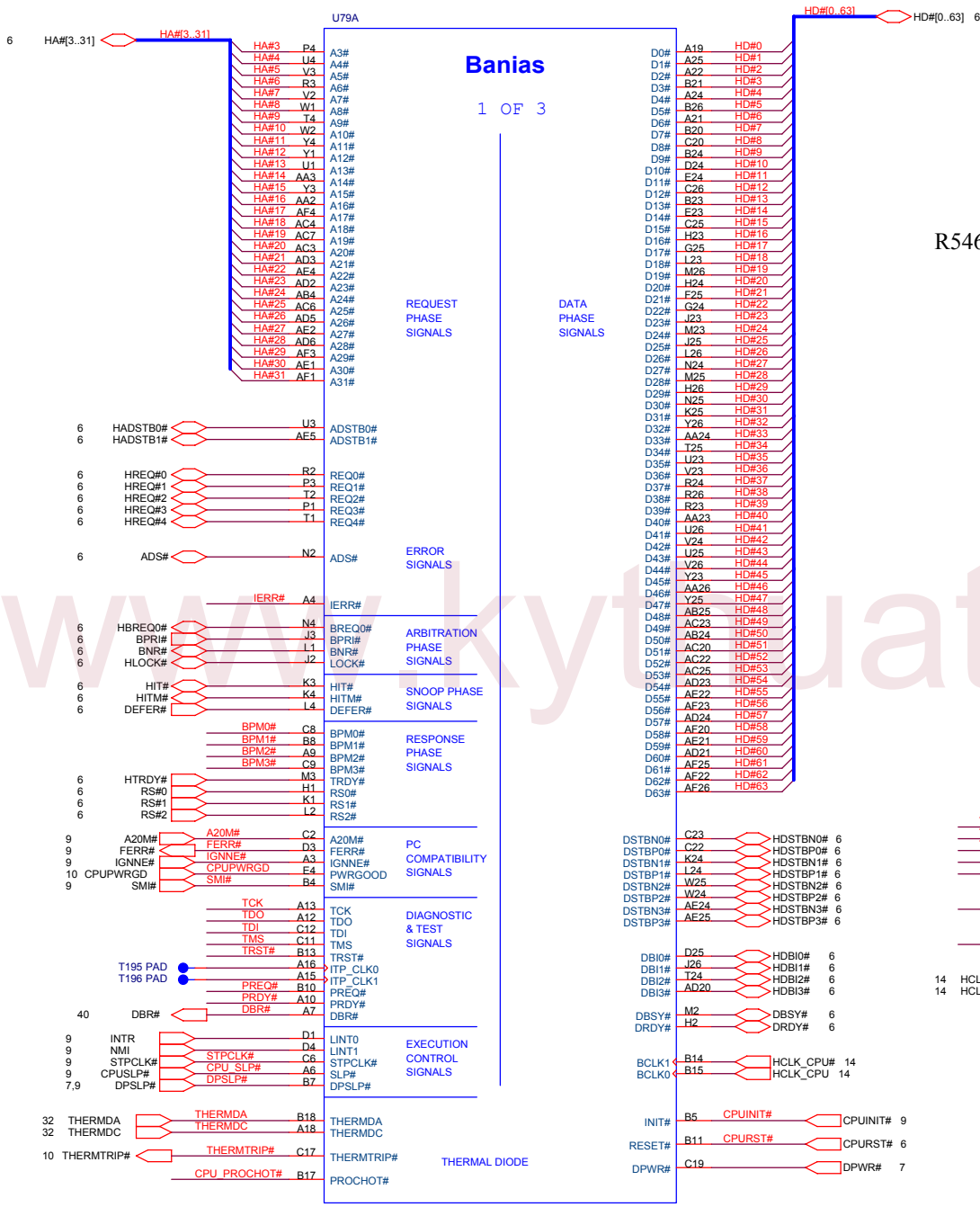
Label	Pg#	Description	Control Signal
DC_IN+		AC ADAPTER (20V)	
PBATT+		MAIN BATTERY + (10~17V)	
PWR_SRC		MAIN POWER (10~20V)	
RTC_PWR3_3V		RTC & PCL POWER <sub>(3_3V)</sub>	
+12V		+12V	DRUNPWROK
VHCORE		CPU CORE POWER (1.25/1.15V)	RUNPWROK
V1_2RUN		AGTL+ POWER (1.2V)	RUNPWROK
+3VRUN		SLP_S3# CTRLD POWER	RUN_ON
+3VSUS		SLP_S5# CTRLD POWER	SUS_ON
+5VALW		8051 POWER (5V)	
+5VRUN		SLP_S3# CTRLD POWER	RUN_ON
+5VSUS		SLP_S5# CTRLD POWER	SUS_ON
+5VHDD		HDD POWER (5V)	HDDC_EN#
+5VMOD		MODULE POWER (5V)	MODC_EN#
STRB#/5V		EXTERNAL FDD POWER (5V)	FDD/LPT#
+5VFAN1, +5VFAN2		FAN POWER (5V)	FAN_OFF/ON#
VDDA		AUDIO ANALOG POWER (5V)	RUN_ON
1_8VSUS		RESUME WELL IN ICH	
1_8VRUN		SLP_S3# CTRLD POWER	
+3VALW		8051 POWER (3V)	
V1_5RUN		AGP I/O POWER	
 GND	ALL PAGES	DIGITAL GROUND	
 AGND		AUDIO GND	
 GNDP		CPU POWER GND	
 CGNDP		CHARGER GND	
 DGNDP		DC/DC POWER GND	
 LANGND		COMBO CONN GND	

Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent."

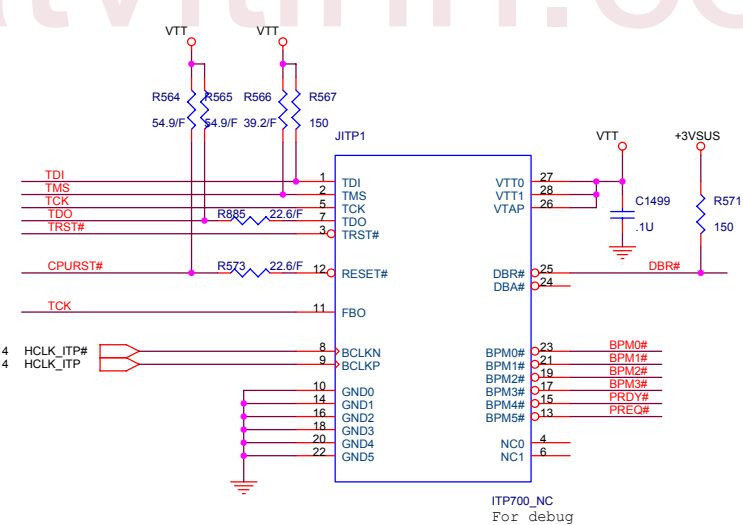
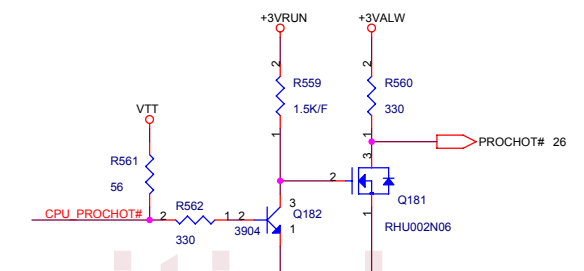


Title		Index, DNI, Power & Ground	
Size	Document Number	Rev	
B	JM2	11A	
Date:	Tuesday, August 12, 2003	Sheet	3 of 51

R867 should be close to ICH4



R546 should be place within 2" of the processor ; others place near ITP



Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent.

**DELL** QUANTA COMPUTER

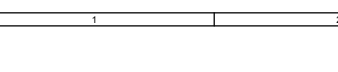
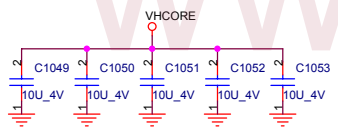
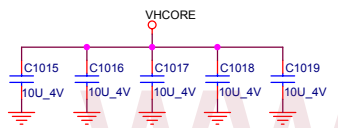
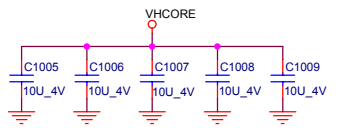
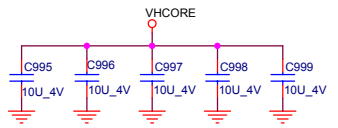
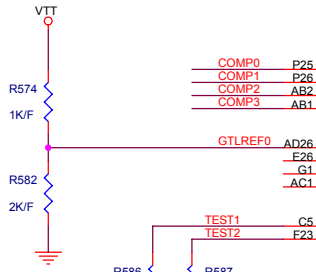
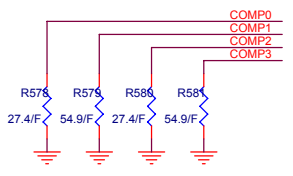
Title: Banias Processor (HOST)

Size: Document Number JM2

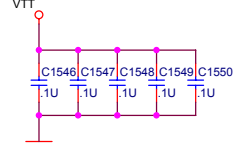
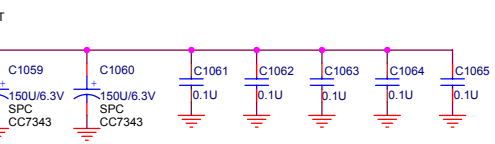
Date: Tuesday, August 12, 2003

Sheet: 4 of 51

Rev: 13L

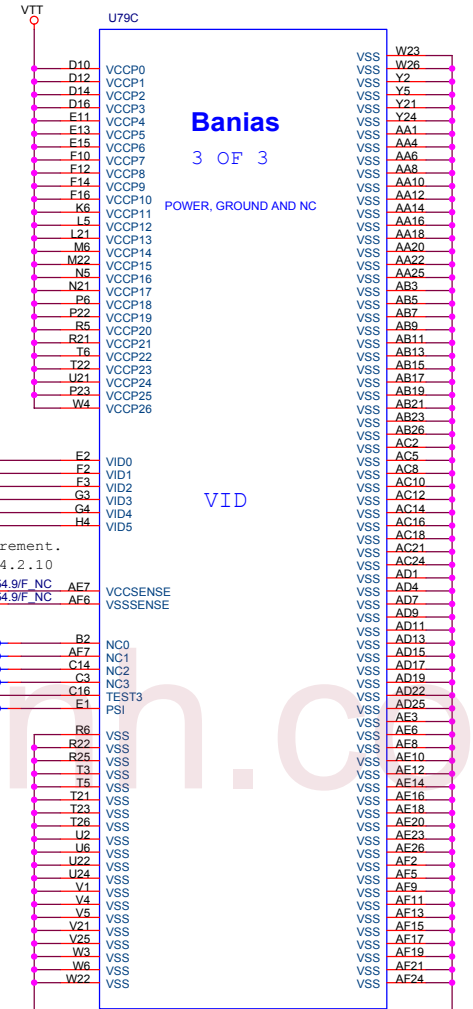


Total caps = 2633 uF  
ESR = 15m ohm/5 // 5m ohm/25 // 5m ohm/15



Banias		2 OF 3	
COMP0	P25	VSS	A2
COMP1	P26	VSS	A5
COMP2	AB2	VSS	A8
COMP3	AB1	VSS	A11
		VSS	A14
		VSS	A17
		VSS	A20
		VSS	A23
		VSS	A26
		VSS	B3
		VSS	B6
		VSS	B9
		VSS	B12
		VSS	B16
		VSS	B19
		VSS	B22
		VSS	B25
		VSS	C1
		VSS	C4
		VSS	C7
		VSS	C10
		VSS	C13
		VSS	C15
		VSS	C18
		VSS	C21
		VSS	C24
		VSS	D2
		VSS	D5
		VSS	D7
		VSS	D9
		VSS	D11
		VSS	D13
		VSS	D15
		VSS	D17
		VSS	D19
		VSS	D21
		VSS	D23
		VSS	D26
		VSS	E3
		VSS	E6
		VSS	E8
		VSS	E10
		VSS	E12
		VSS	E14
		VSS	E16
		VSS	E18
		VSS	E20
		VSS	E22
		VSS	F1
		VSS	F4
		VSS	F5
		VSS	F7
		VSS	F11
		VSS	F13
		VSS	F15
		VSS	F17
		VSS	F19
		VSS	G2
		VSS	G6
		VSS	G22
		VSS	G23
		VSS	G26
		VSS	H3
		VSS	H5
		VSS	H21
		VSS	H25
		VSS	J1
		VSS	J4
		VSS	J6
		VSS	J22
		VSS	J24
		VSS	K2
		VSS	K5
		VSS	K21
		VSS	K23
		VSS	K26
		VSS	L3
		VSS	L6
		VSS	L22
		VSS	L25
		VSS	M1
		VSS	M4
		VSS	M5
		VSS	M21
		VSS	M24
		VSS	N3
		VSS	N6
		VSS	N22
		VSS	N23
		VSS	N26
		VSS	P2
		VSS	P5
		VSS	P21
		VSS	P24
		VSS	R1
		VSS	R4

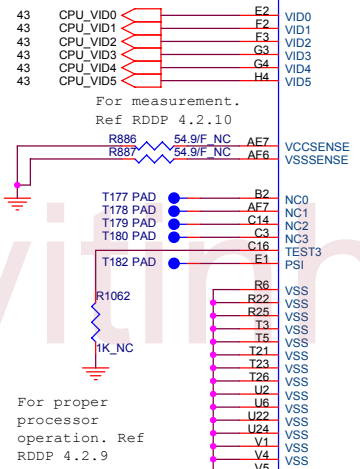
POWER, GROUND, RESERVED SIGNALS



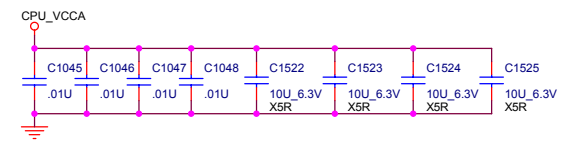
Banias  
3 OF 3

POWER, GROUND AND NC

VID



For proper processor operation. Ref RDDP 4.2.9

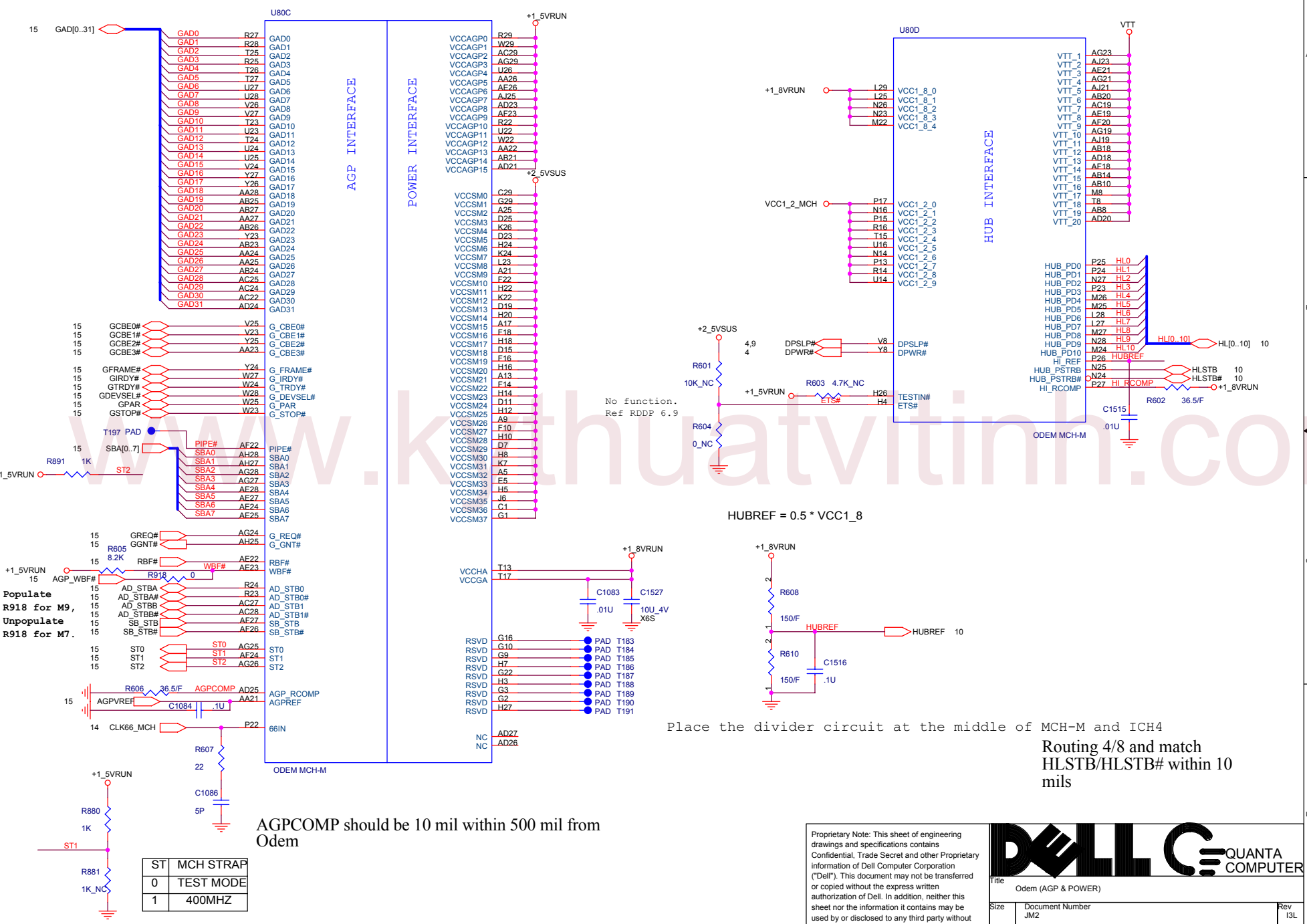


Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent.\*



Title: Banias Processor (POWER)		
Size: JM2	Document Number: JM2	Rev: 13L
Date: Tuesday, August 12, 2003	Sheet: 5	of 51





AGPCOMP should be 10 mil within 500 mil from Odem

ST	MCH STRAP
0	TEST MODE
1	400MHZ

Place the divider circuit at the middle of MCH-M and ICH4  
 Routing 4/8 and match HLSTB/HLSTB# within 10 mils

Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent.\*

QUANTA COMPUTER

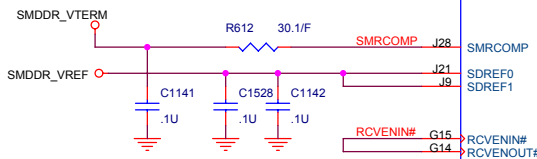
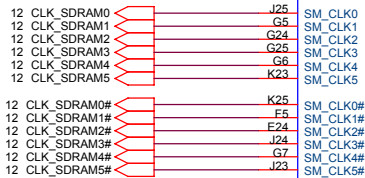
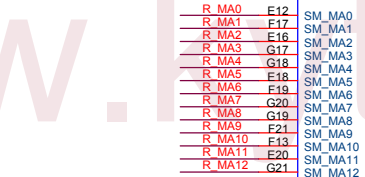
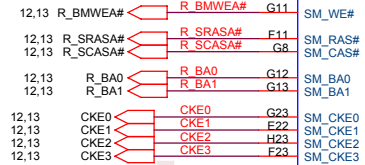
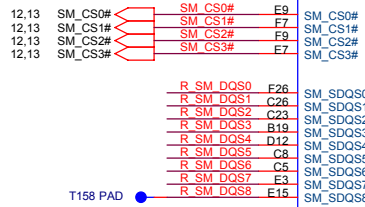
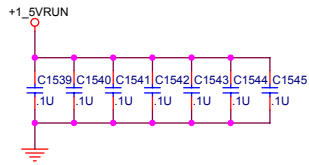
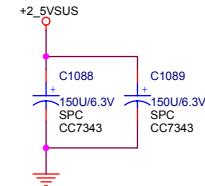
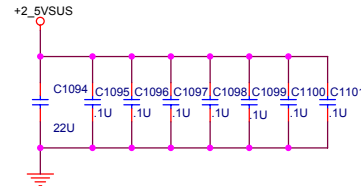
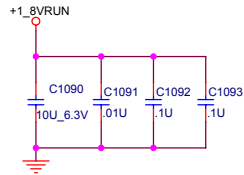
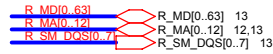
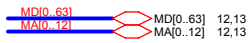
Title: Odem (AGP & POWER)

Size: Document Number JM2

Date: Tuesday, August 12, 2003

Sheet: 7 of 51

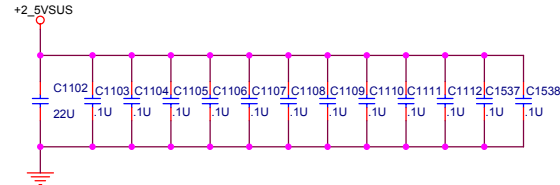
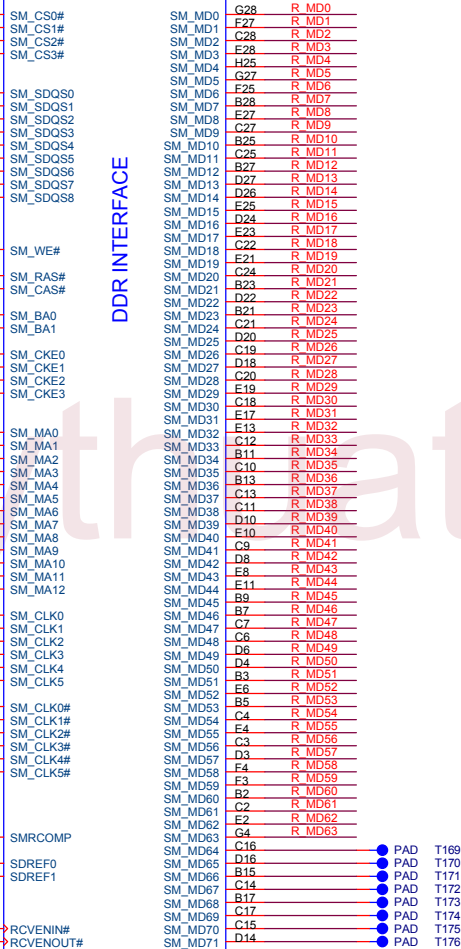
Rev: 13L



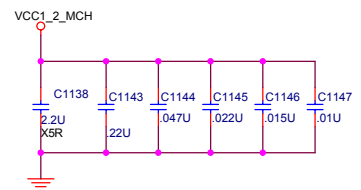
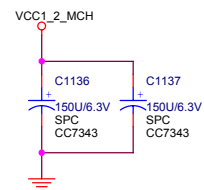
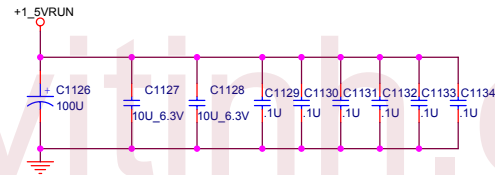
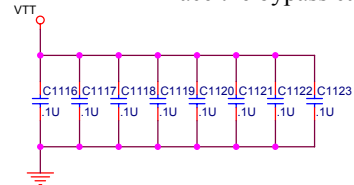
U80B

DDR INTERFACE

ODEM MCH-M



Place the bypass caps close to Odem MCH-M



RCVENIN# and RCVENOUT# ROUTING RULE

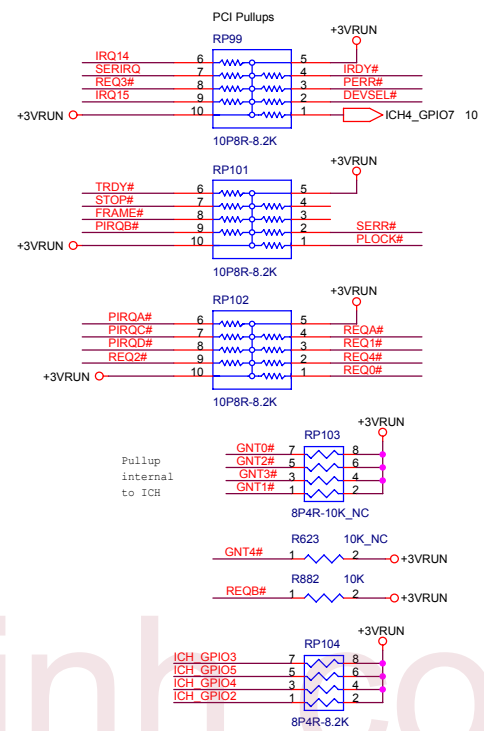
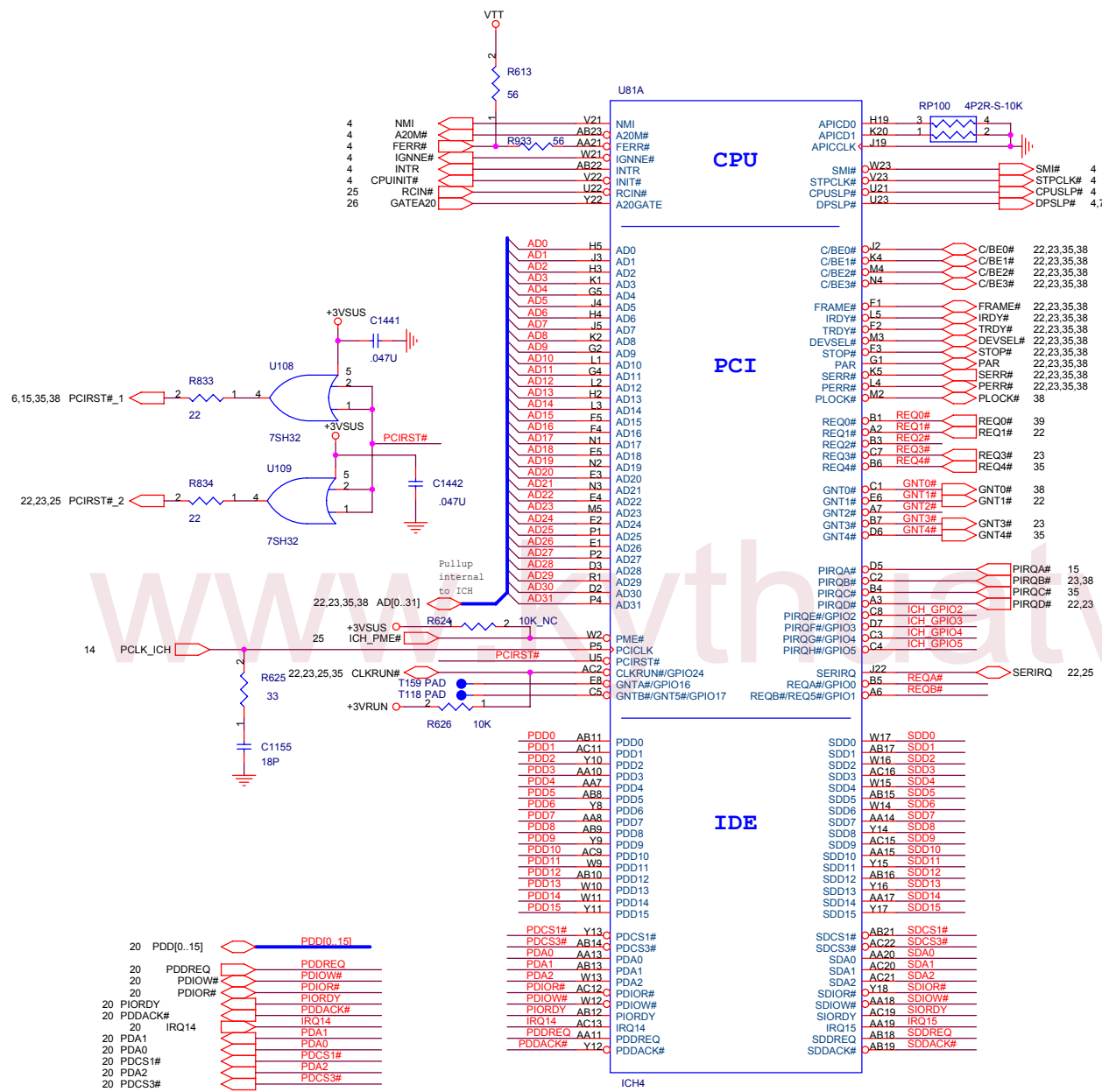
L1 - MCH-M Feedback Signal Pin to Signal Via: Max = 40 mils  
L2 - MCH-M RCVENOUT# Signal Via to RCVENIN# Signal Via: Must = 100 mils +/- 5mils  
L3 - Signal Via to MCH-M Feedback Signal Pin: Max = 40 mils

Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent.



Title		Odem ( DDR )	
Size	Document Number	Rev	
	JM2	12E	
Date:	Tuesday, August 12, 2003	Sheet	8 of 51





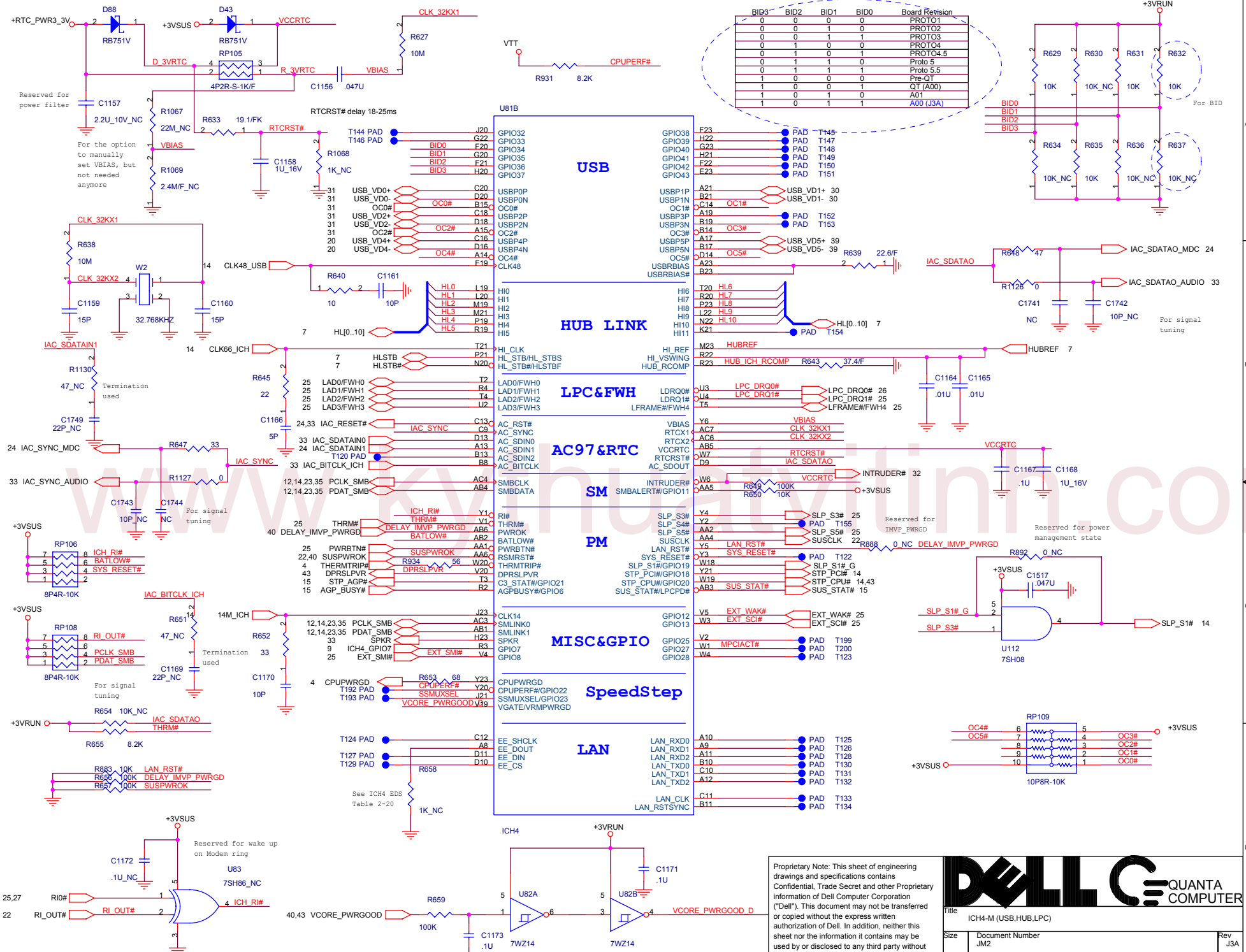
REQ0 : DOCKING  
 REQ1 : Card Bus  
 REQ2 : USB 2.0  
 REQ3 : MINI PCI  
 REQ4 : BCM5702 LAN

Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent.\*

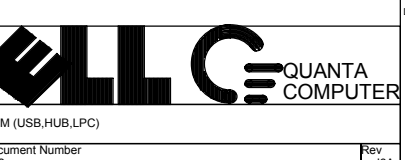
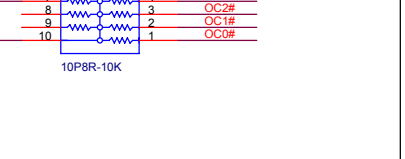
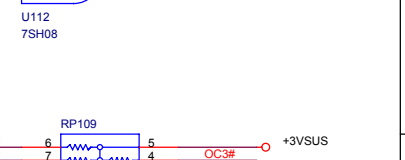
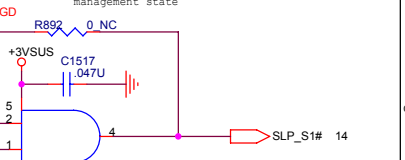
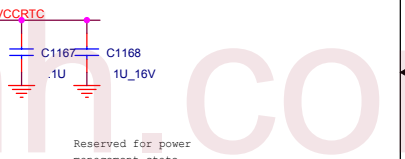
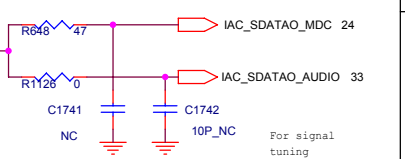
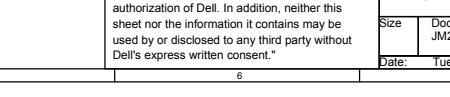
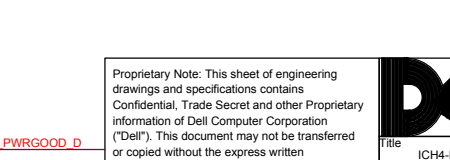
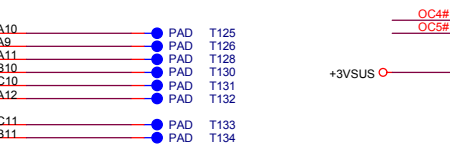
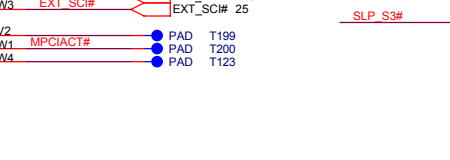
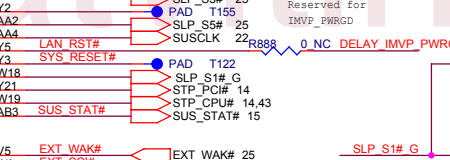
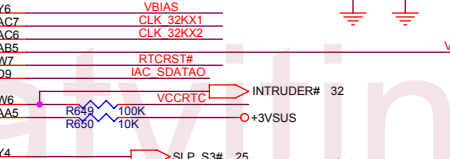
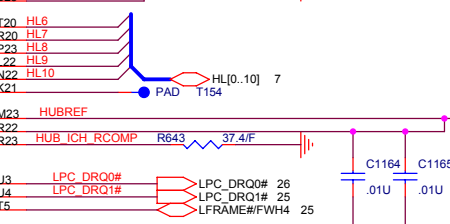
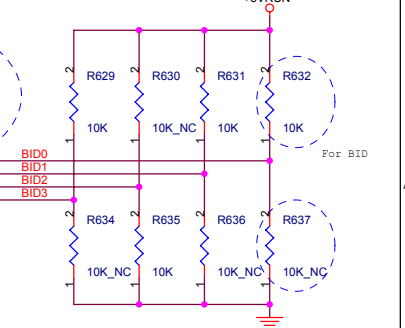
**DELL** QUANTA COMPUTER

File: ICH4-M (CPU,PCI,IDE)

Size	Document Number JM2	Rev 13L
Date: Tuesday, August 12, 2003	Sheet 9	of 51



BID3	BID2	BID1	BID0	Board Revision
0	0	0	0	PROTO1
0	0	1	1	PROTO2
0	1	0	0	PROTO3
0	1	0	1	PROTO4
0	1	1	0	PROTO4.5
0	1	1	1	Proto 5
1	0	0	0	Pre-QT
1	0	0	1	QT (A00)
1	0	1	0	A01
1	0	1	1	A00 (J3A)



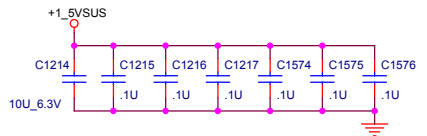
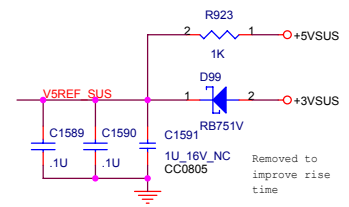
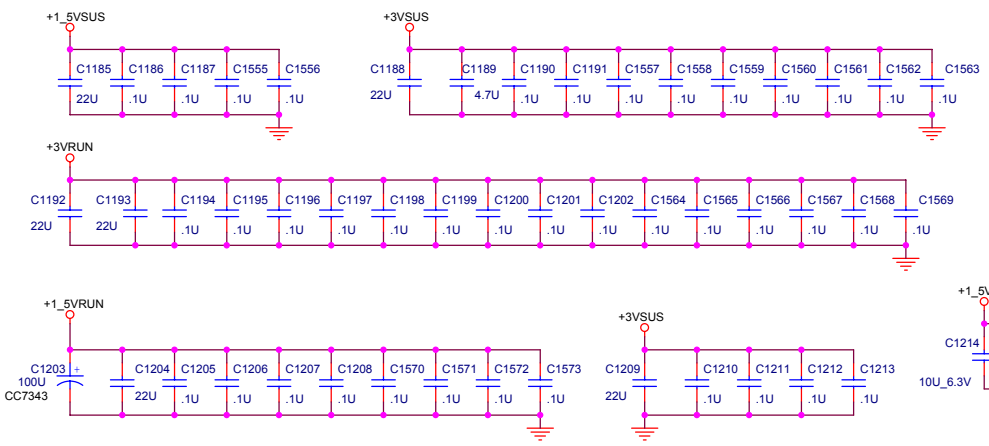
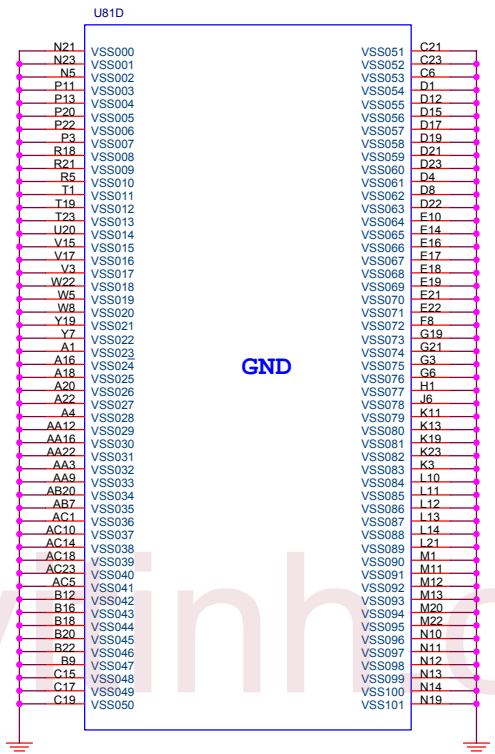
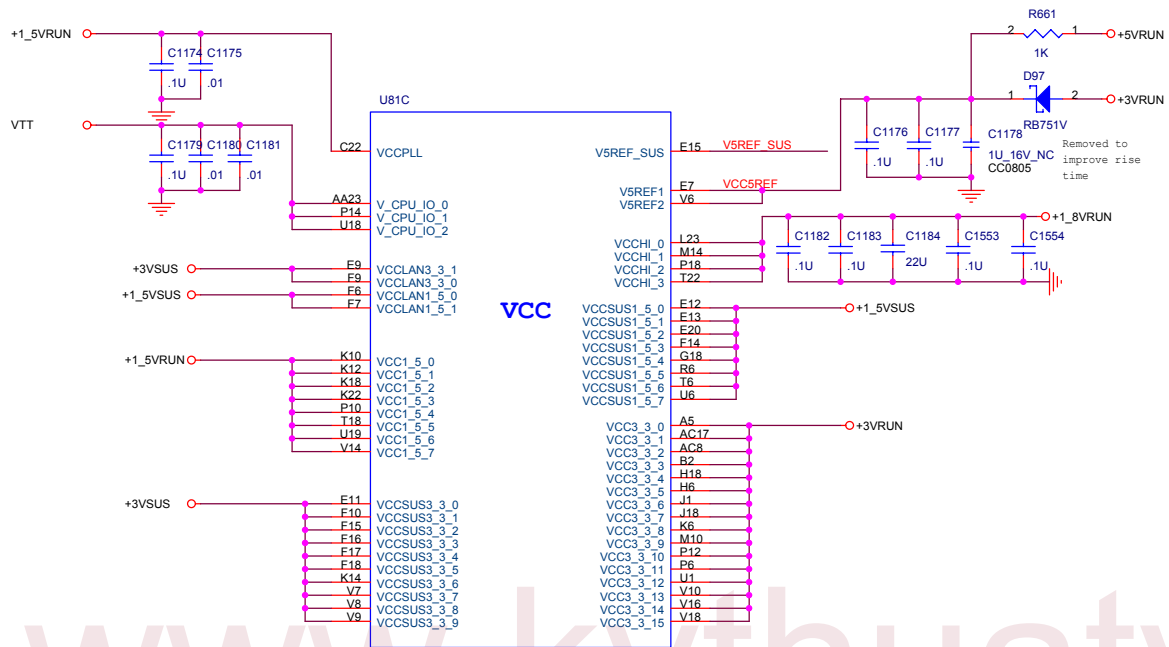
Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent.\*

QUANTA COMPUTER

File: ICH4-M (USB,HUB,LPC)

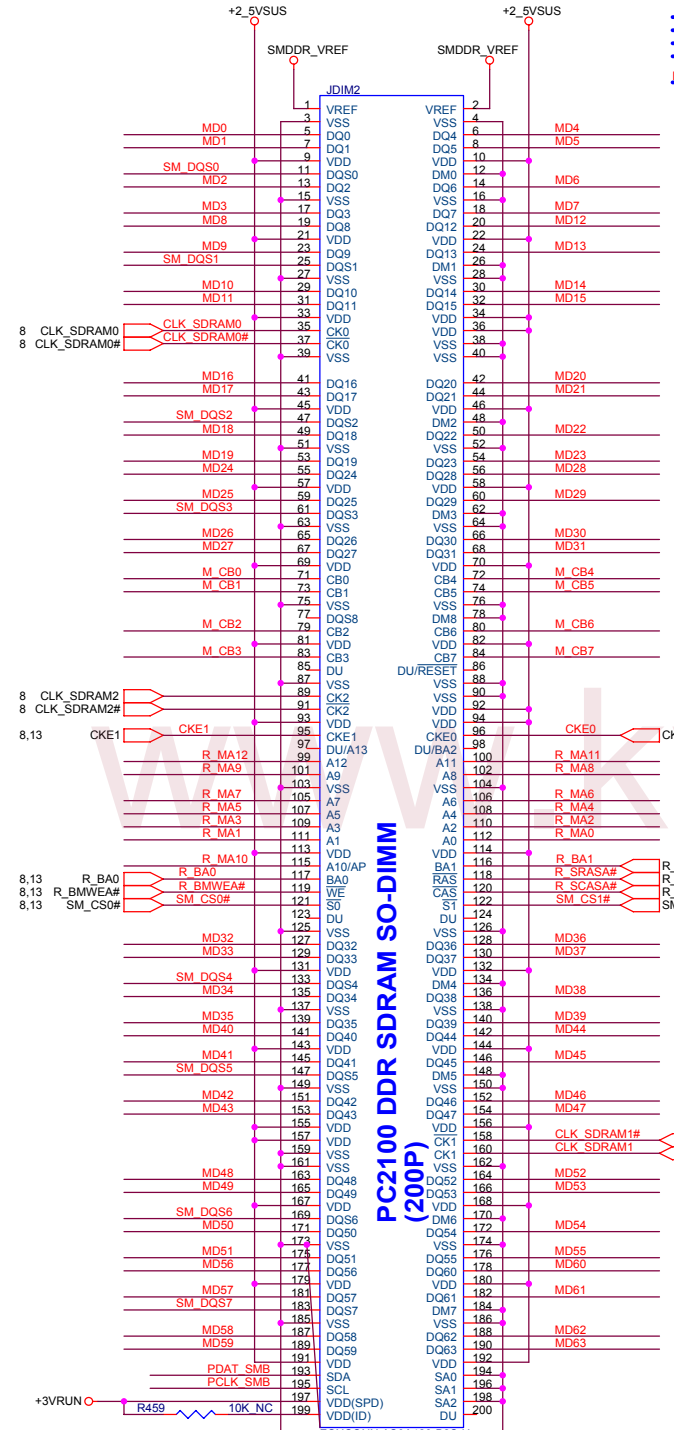
Size	Document Number	Rev
	JM2	J3A

Date: Tuesday, August 12, 2003 Sheet 10 of 51



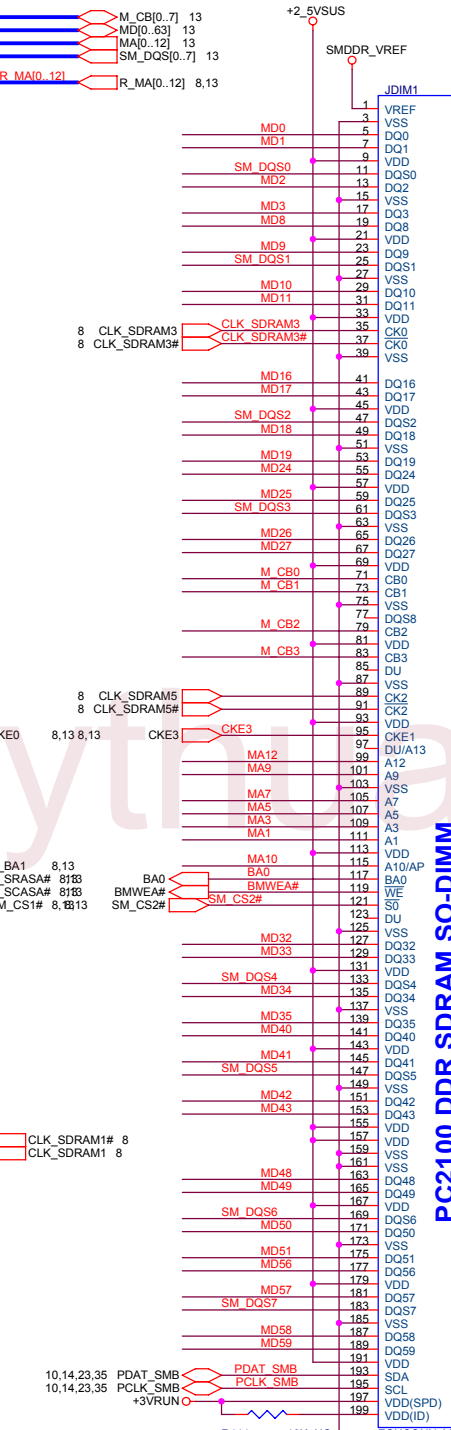
Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent.\*

Title: ICH4-M (POWER&GND)  
 Size: Document Number JM2  
 Date: Tuesday, August 12, 2003  
 Sheet: 11 of 51  
 Rev: 13L



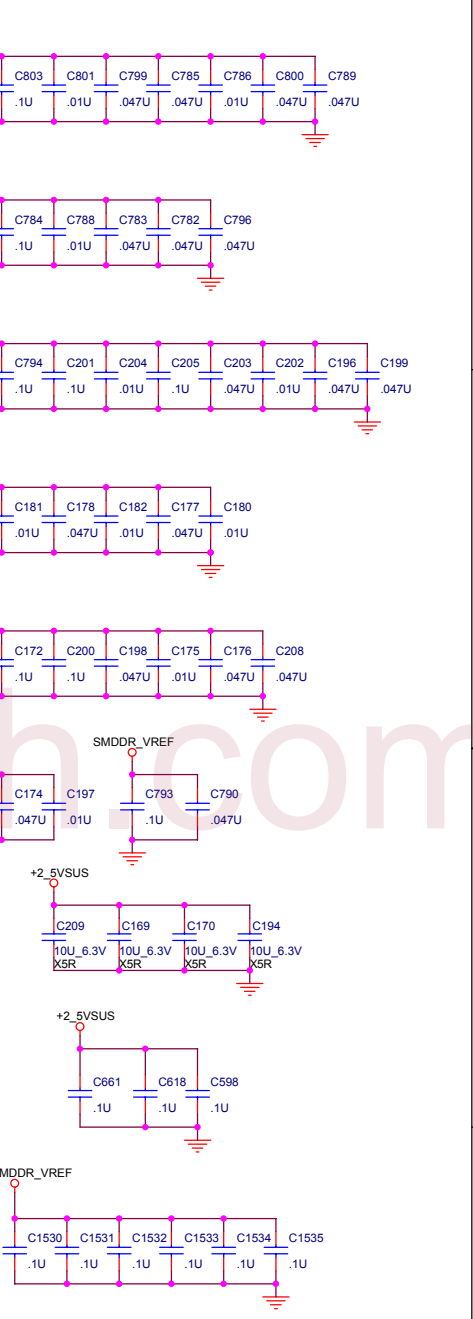
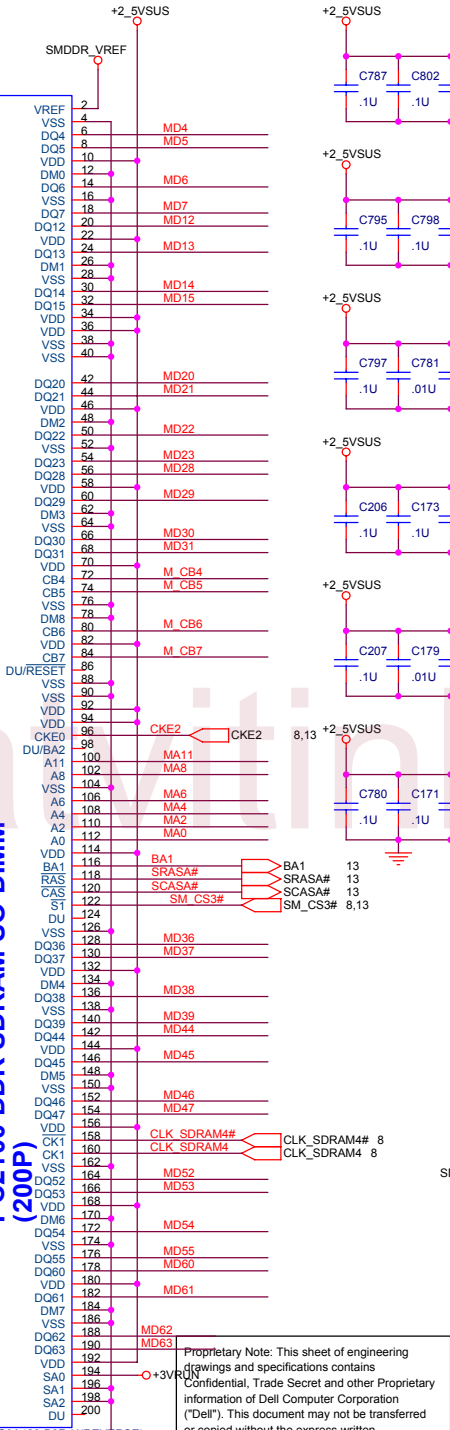
**PC2100 DDR SDRAM SO-DIMM (200P)**

**CLOCK 0,1,2  
CKE 0,1**



**PC2100 DDR SDRAM SO-DIMM (200P)**

**CLOCK 3,4,5  
CKE 2,3**



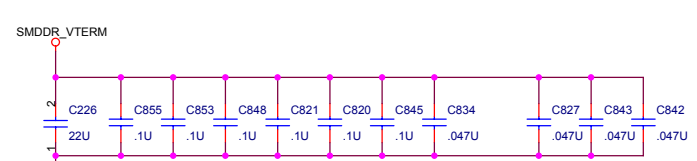
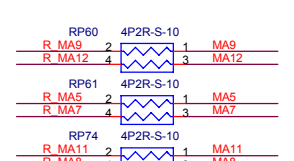
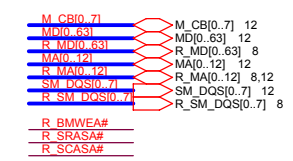
Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent.

**QUANTA COMPUTER**

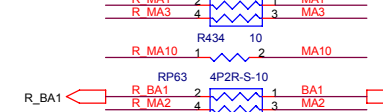
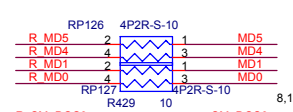
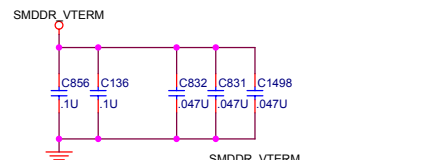
File: System DRAM Expansion (200P-DDR\_SODIMM X 2)

Size	Document Number	Rev
	JM2	13L

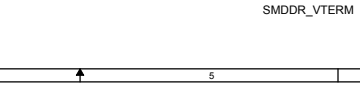
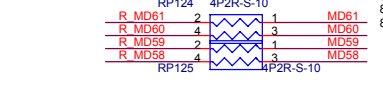
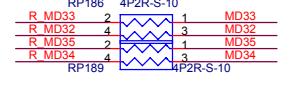
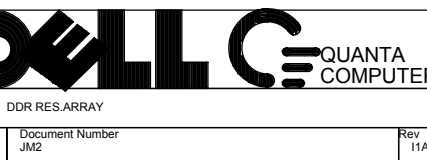
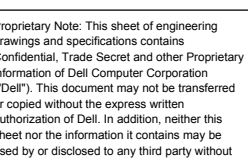
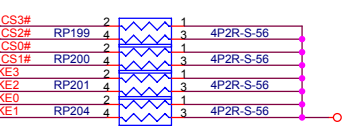
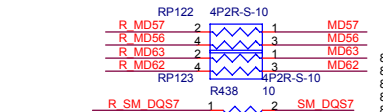
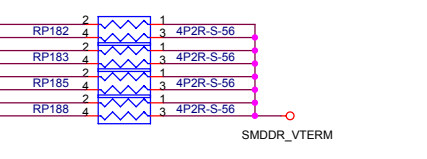
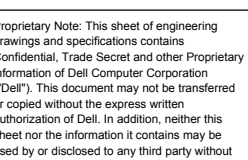
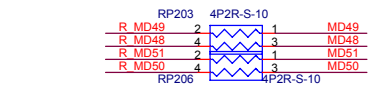
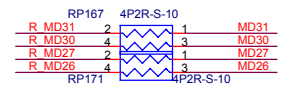
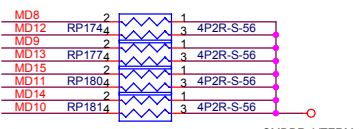
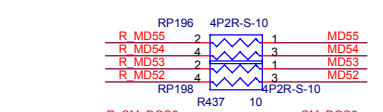
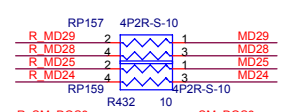
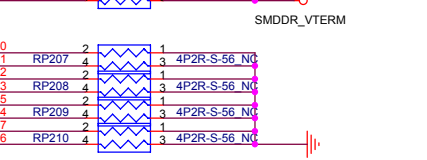
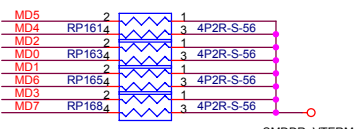
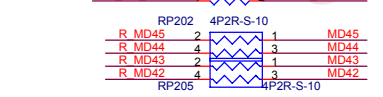
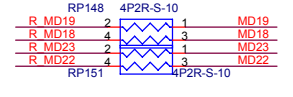
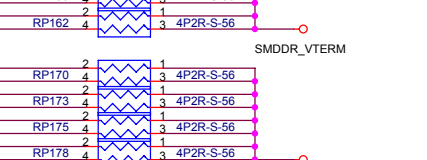
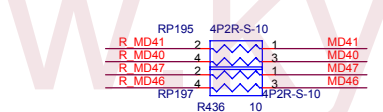
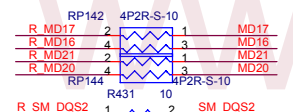
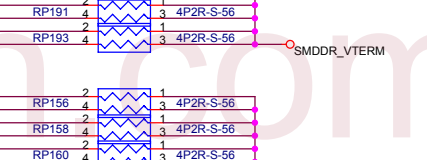
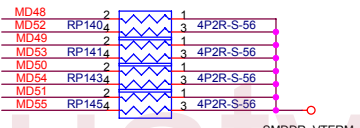
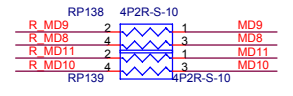
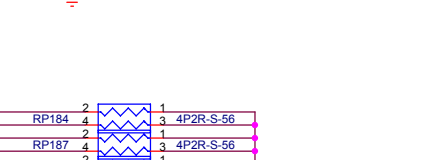
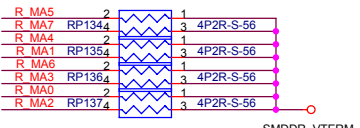
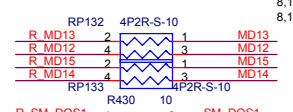
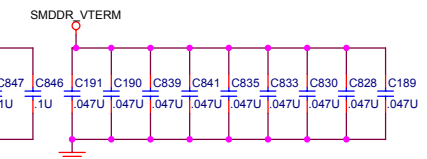
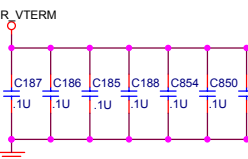
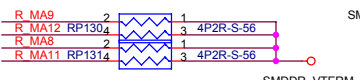
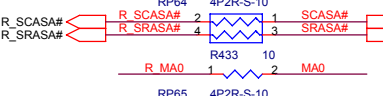
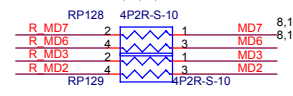
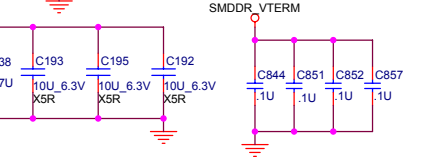
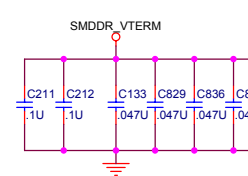
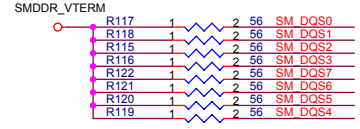
Date: Tuesday, August 12, 2003 Sheet 12 of 51



For terminal R-pack.



Place Rterms close to JDIMM 1



Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent.

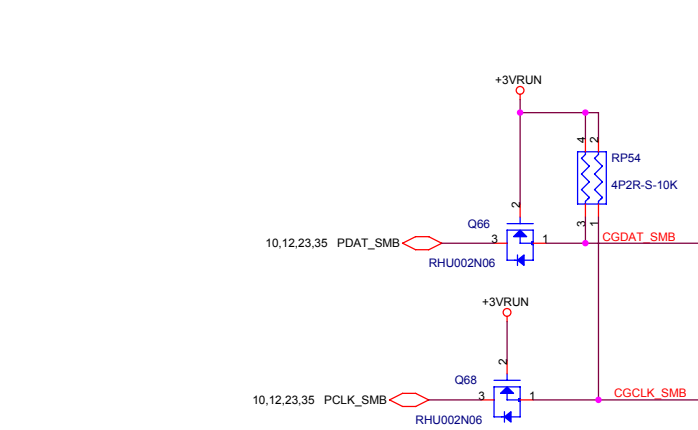
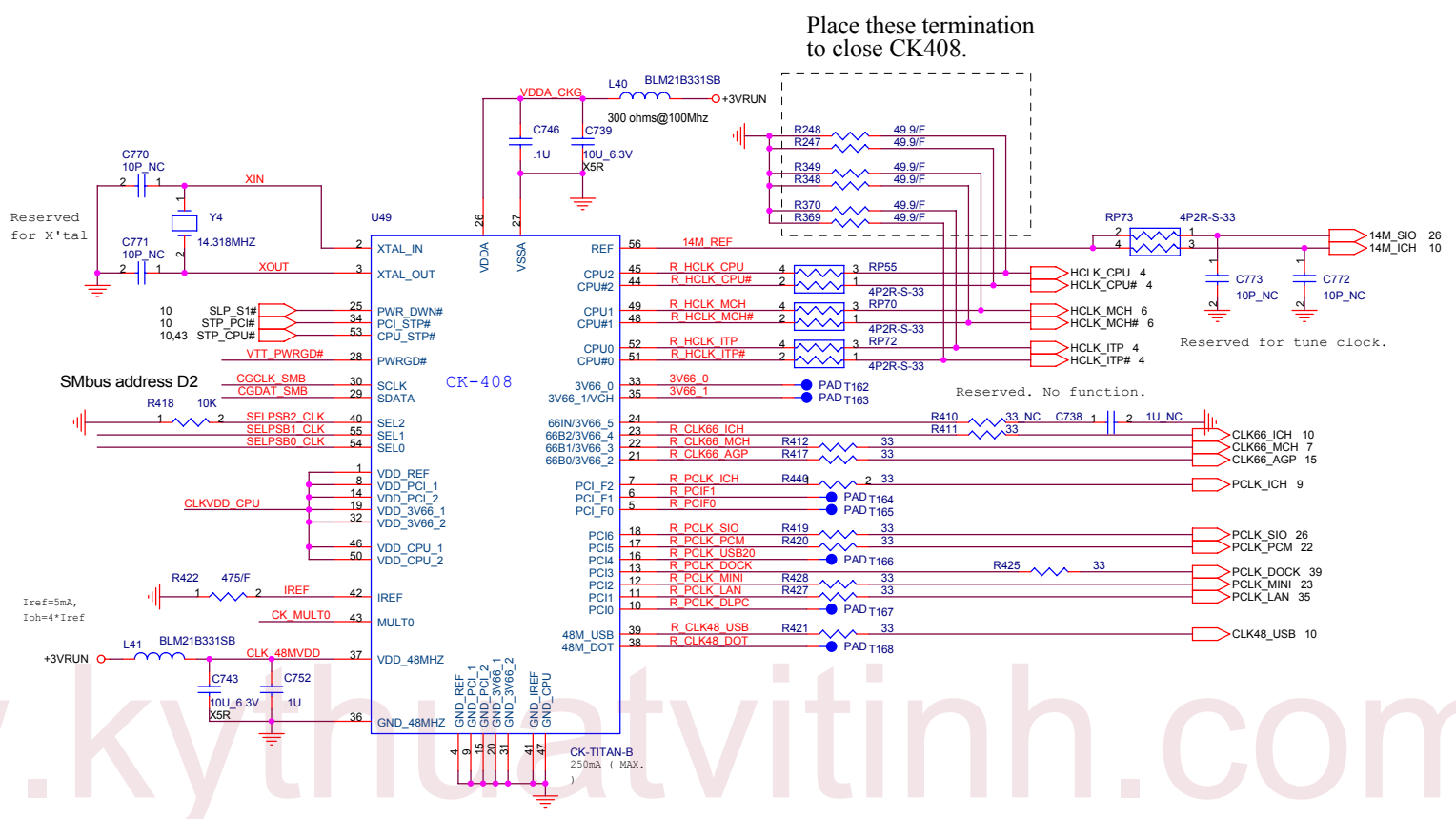
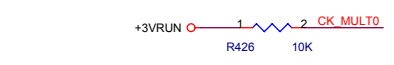
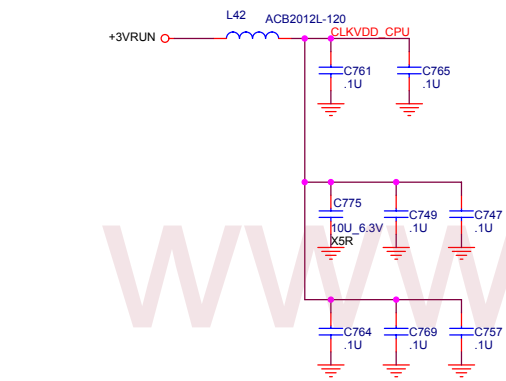
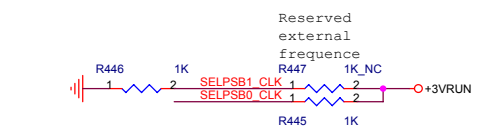
**DELL** QUANTA COMPUTER

File: DDR.RES.ARRAY

Size	Document Number	Rev
	JM2	11A

Date: Tuesday, August 12, 2003 Sheet 13 of 51

S2	S1	S0	CPU	3V66[0..4]	3V66_5/66IN
1	0	0	66	66IN	66 Input
1	0	1	100	66IN	66 Input
1	1	0	200	66IN	66 Input
1	1	1	133	66IN	66 Input
0	0	0	66	66	66 Input
0	0	1	100	66	66 Input
0	1	0	200	66	66 Input
0	1	1	133	66	66 Input



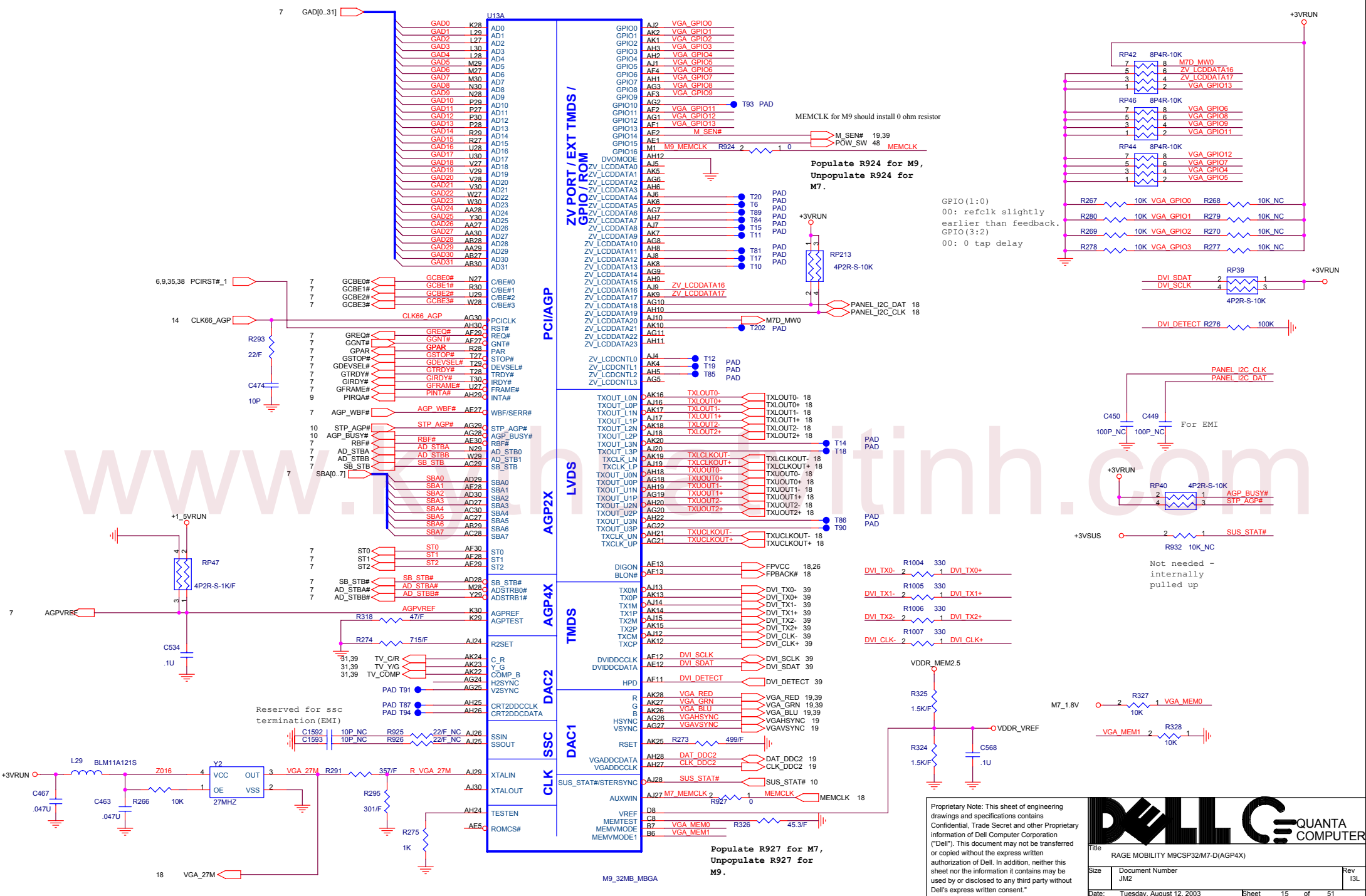
Place these termination to close CK408.

Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent."



Title			CLOCK GENERATOR
Size	Document Number	Rev	
	JM2	I3L	
Date:	Tuesday, August 12, 2003	Sheet	14 of 51

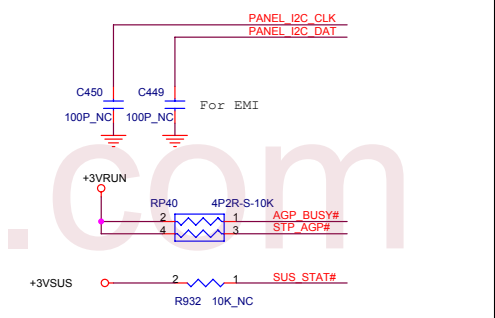
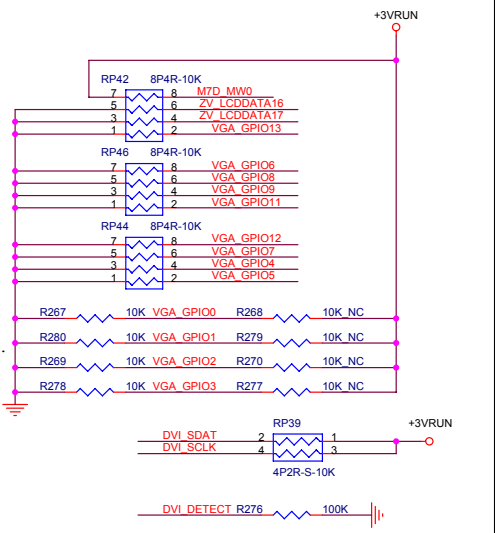
These are for backdrive issue



MEMCLK for M9 should install 0 ohm resistor

Populate R924 for M9,  
Unpopulate R924 for M7.

GPIO(1:0)  
00: reflck slightly earlier than feedback.  
GPIO(3:2)  
00: 0 tap delay



Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary Information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent.\*

QUANTA COMPUTER

title RAGE MOBILITY M9CSP32/M7-D(AGP4X)

Size	Document Number JM2	Rev 13L
Date:	Tuesday, August 12, 2003	Sheet 15 of 51

Populate R927 for M7,  
Unpopulate R927 for M9.

M9\_32MB\_MBGA

J30	MDDA0	C7
J29	MDDA1	D7
H30	MDDA2	D6
H29	MDDA3	D5
F30	MDDA4	C4
F29	MDDA5	D4
E30	MDDA6	C3
E29	MDDA7	A5
J28	MDDA8	B5
J27	MDDA9	A4
H28	MDDA10	B4
H27	MDDA11	B3
F28	MDDA12	B2
F27	MDDA13	A1
E28	MDDA14	B1
F27	MDDA15	F4
D30	MDDA16	E3
D29	MDDA17	F3
C30	MDDA18	F4
C29	MDDA19	H3
A30	MDDA20	H4
A29	MDDA21	J3
A28	MDDA22	J4
B28	MDDA23	C1
D28	MDDA24	C2
C28	MDDA25	D1
D27	MDDA26	D2
C27	MDDA27	F1
D26	MDDA28	F2
C26	MDDA29	G1
D24	MDDA30	G2
C24	MDDA31	R1
D18	MDDA32	R2
C18	MDDA33	T1
D17	MDDA34	T2
C17	MDDA35	V1
D15	MDDA36	V2
C15	MDDA37	W1
D14	MDDA38	W2
C14	MDDA39	T3
B17	MDDA40	T4
A17	MDDA41	U3
B16	MDDA42	U4
B14	MDDA43	W3
A14	MDDA44	W4
B13	MDDA45	Y3
A13	MDDA46	Y4
D13	MDDA47	Y1
C13	MDDA48	Y2
D12	MDDA49	AA1
C12	MDDA50	AA2
D10	MDDA51	AC1
C10	MDDA52	AC2
D9	MDDA53	AD1
C9	MDDA54	AD2
B12	MDDA55	AA3
A12	MDDA56	AA4
B11	MDDA57	AB3
A11	MDDA58	AB4
B8	MDDA59	AD3
A8	MDDA60	AD4
B8	MDDA61	AE3
A8	MDDA62	AE4
A8	MDDA63	AE4
B26	MAA0	H2
A26	MAA1	H1
B25	MAA2	J2
A25	MAA3	J1
C22	MAA4	K4
D21	MAA5	K3
C21	MAA6	L4
D20	MAA7	M3
C20	MAA8	L3
D22	MAA9	M4
C23	MAA10	N2
D23	MAA11	N1
A27	MAA12	N4
B27	MAA13	N3
G30C	DOMA#0	D5
G28C	DOMA#1	B3
B30C	DOMA#2	G3
D28C	DOMA#3	E1
D16C	DOMA#4	U1
B15C	DOMA#5	V3
D11C	DOMA#6	AB1
B10C	DOMA#7	AC3
G29	QSA0	C5
G27	QSA1	A3
B28	QSA2	G4
C26	QSA3	E2
C16	QSA4	U2
A15	QSA5	V4
C11	QSA6	AB2
A10	QSA7	AC4
B18C	RASA#	P4
A19C	CASA#	R3
C19C	WEA#	P2
B19C	CSA#0	P3
D19	CSA#1	P1
B23	CKEA	K2
A23	CLKA0	K1
B22C	CLKA0#	L2
A22C	CLKA1	L1
A21C	CLKA1#	M2
A21C	CLKAFB	M2

MEMORY INTERFACE

M9\_32MB\_MBGA



L11	VSS	T15
M10	VSS	U15
N10	VSS	V15
P10	VSS	W15
R10	VSS	Y15
T10	VSS	L16
U10	VSS	M16
V10	VSS	N16
W10	VSS	P16
Y10	VSS	R16
A2	VSS	T16
B2	VSS	U16
N11	VSS	V16
P11	VSS	Y16
R11	VSS	L17
U11	VSS	M17
V11	VSS	N17
W11	VSS	P17
Y11	VSS	R17
L12	VSS	T17
M12	VSS	U17
N12	VSS	V17
P12	VSS	Y17
R12	VSS	L18
T12	VSS	M18
U12	VSS	N18
V12	VSS	P18
W12	VSS	R18
Y12	VSS	T18
L13	VSS	U18
M13	VSS	V18
N13	VSS	Y18
P13	VSS	L19
R13	VSS	M19
T13	VSS	N19
U13	VSS	P19
V13	VSS	R19
W13	VSS	T19
Y13	VSS	U19
L14	VSS	V19
M14	VSS	Y19
N14	VSS	L20
P14	VSS	M20
R14	VSS	N20
Y14	VSS	P20
L15	VSS	R20
M15	VSS	T20
N15	VSS	U20
R15	VSS	V20
R15	VSS	W20
AA3	VSS	Y20
AA7	VSS	L21
AB24	VSS	M21
AB7	VSS	N21
AC23	VSS	P21
AC24	VSS	R21
AC7	VSS	T21
AC8	VSS	U21
AD10	VSS	V21
AD11	VSS	W21
AD12	VSS	Y21
AD13	VSS	P15
AD14	VSS	G20
AD15	VSS	G21
E11	VSS	G22
AD17	VSS	G23
AD18	VSS	G24
AD19	VSS	G7
AD20	VSS	G8
AD21	VSS	G9
AD22	VSS	H23
AD23	VSS	H24
AD24	VSS	H7
AD7	VSS	H8
ADR	VSS	J2
AD9	VSS	J7
G10	VSS	K24
G11	VSS	K7
G12	VSS	K24
G13	VSS	K7
G14	VSS	L24
G15	VSS	L7
G16	VSS	M24
G17	VSS	M7
G18	VSS	N24
G19	VSS	N7
G19	VSS	P24
G19	VSS	P7
G19	VSS	R24
G19	VSS	R7
G19	VSS	T24
G19	VSS	T7
G19	VSS	U24
G19	VSS	U7
G19	VSS	V24
G19	VSS	V7
G19	VSS	W24
G19	VSS	W7
G19	VSS	Y24
G19	VSS	Y7

GROUND

M9\_32MB\_MBGA

Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent.\*

**DELL** QUANTA COMPUTER

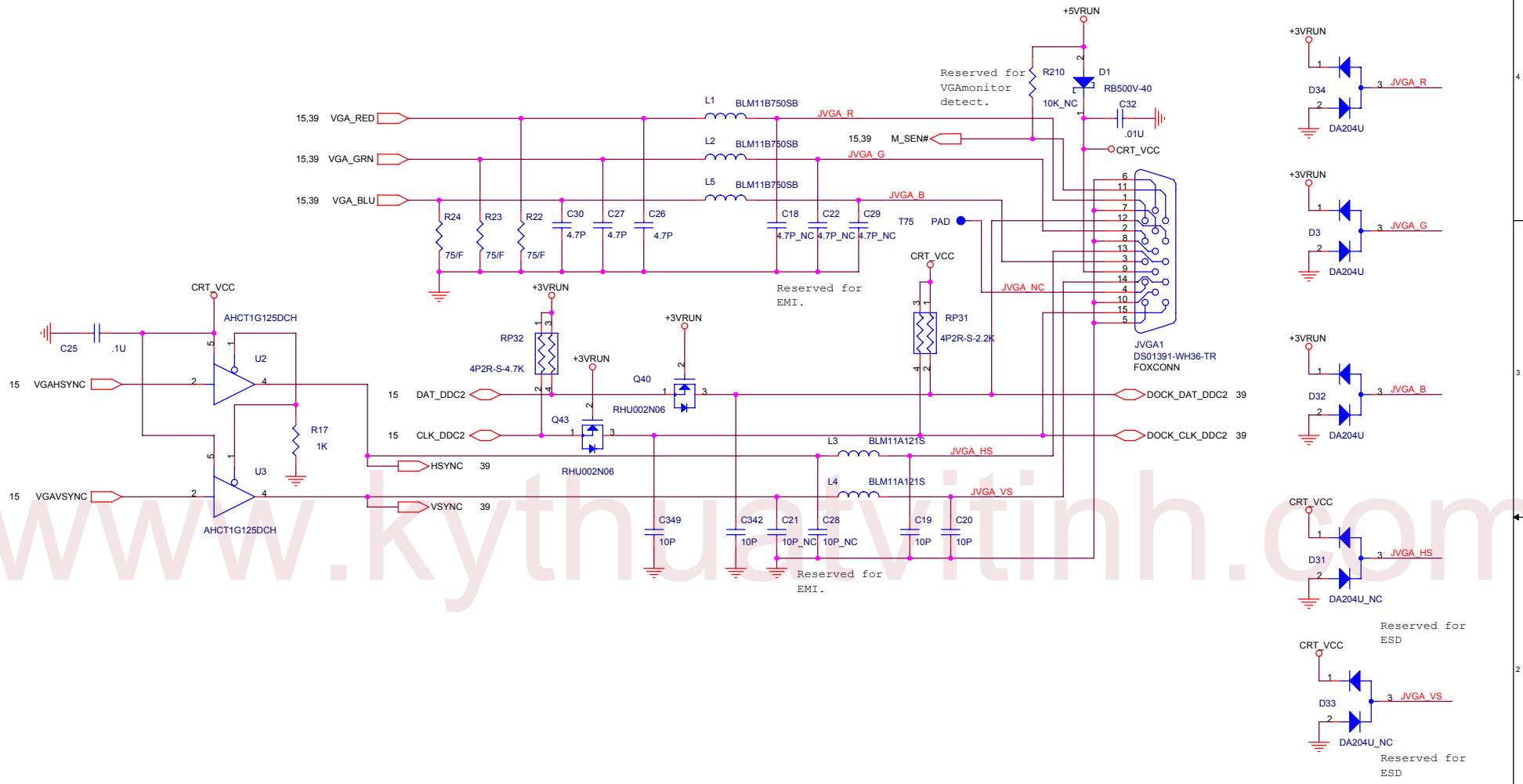
title RAGE MOBILITY M9CSP32M7-D\_B\_MEM

Size	Document Number JM2	Rev 11A
Date:	Tuesday, August 12, 2003	Sheet 16 of 51





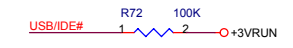
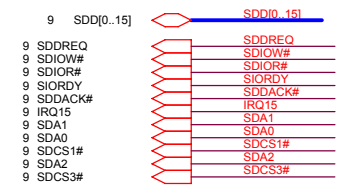
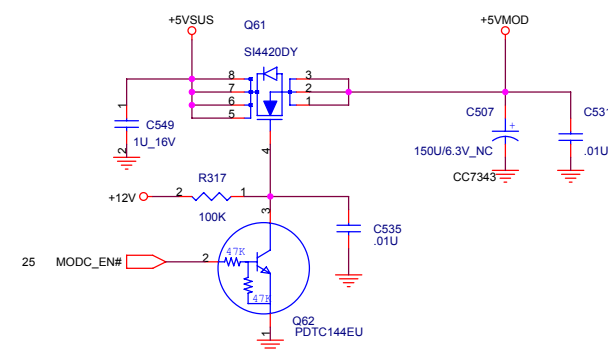
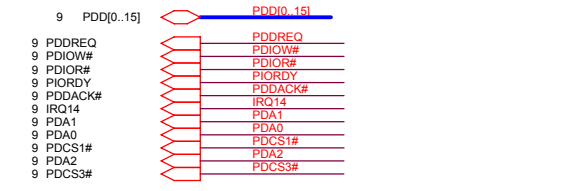
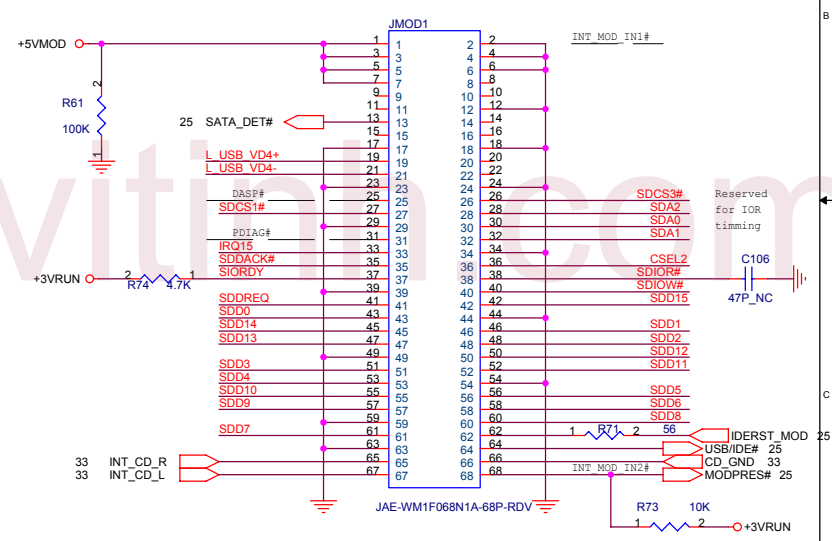
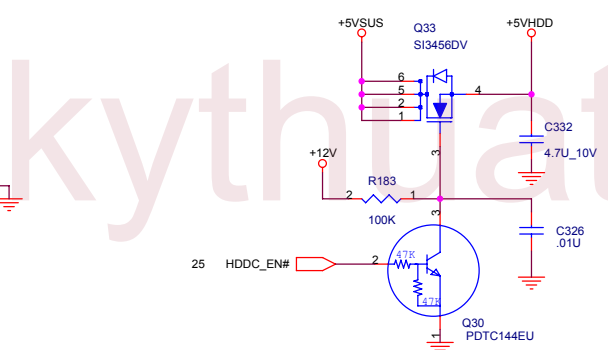
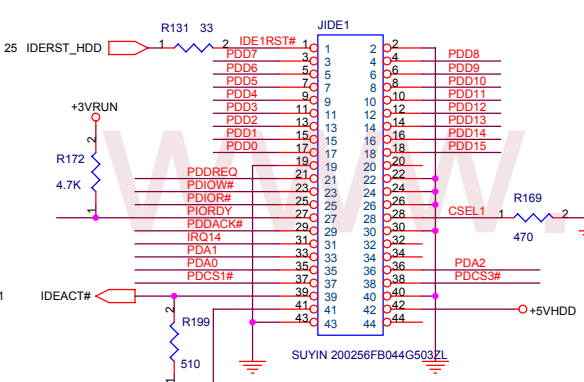
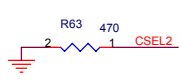
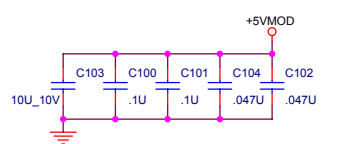
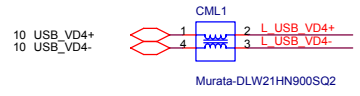
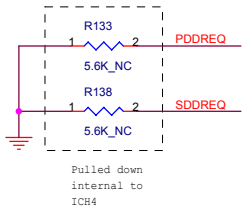




Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent."

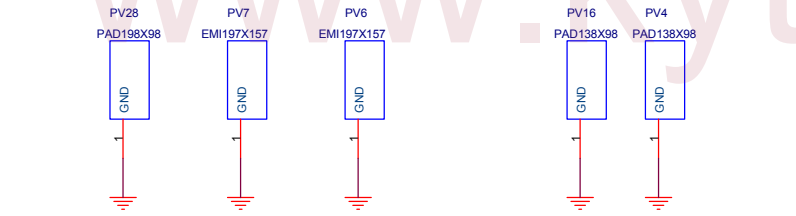
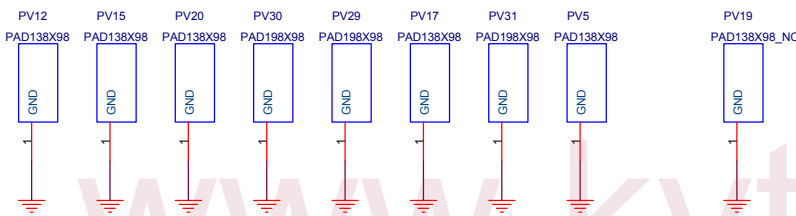
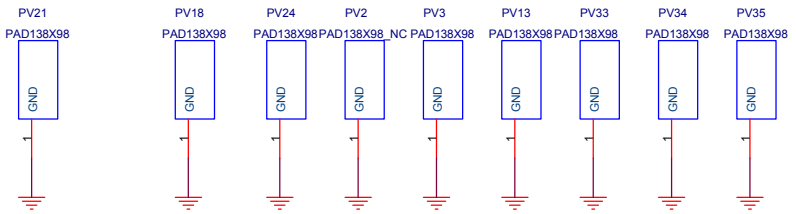
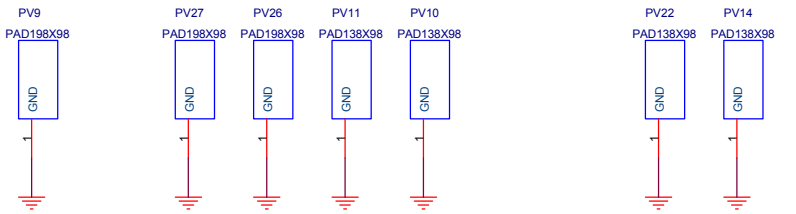


File	CRT CONN	
Size	Document Number JM2	Rev 13L
Date:	Tuesday, August 12, 2003	Sheet 19 of 51



Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent.

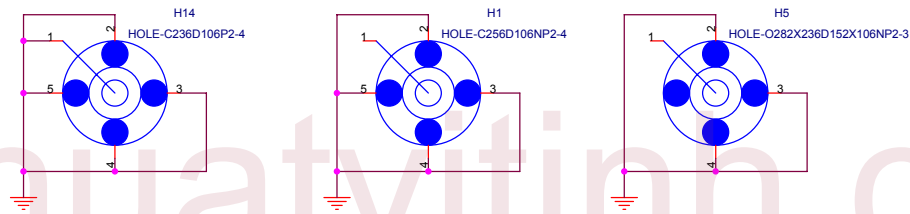
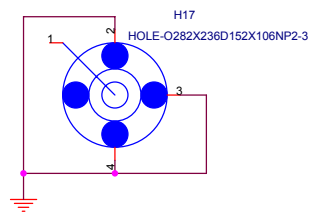
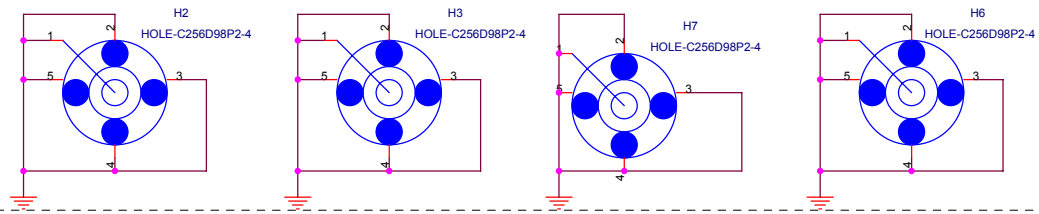
File: IDE (HDD&CD\_ROM)  
 Size: Document Number JM2  
 Date: Tuesday, August 12, 2003 Sheet 20 of 51  
 Rev: I3L



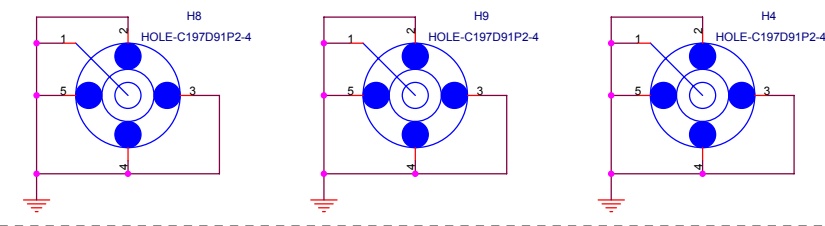
FOR AUDIO

FOR DOCKING

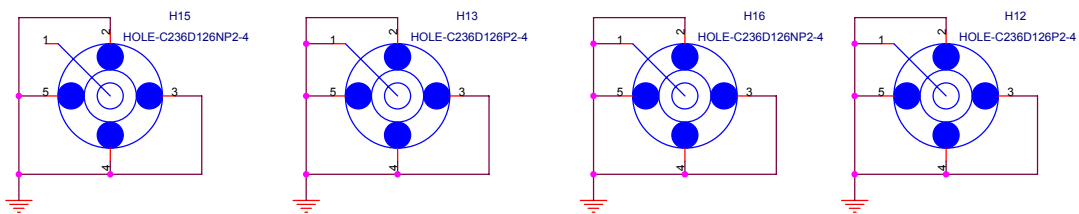
### CPU



### HEAT SINK



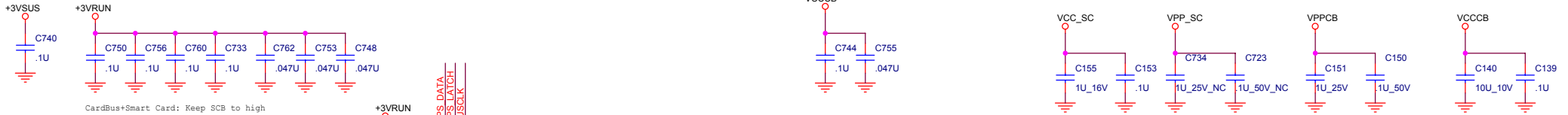
### HDD



Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent.

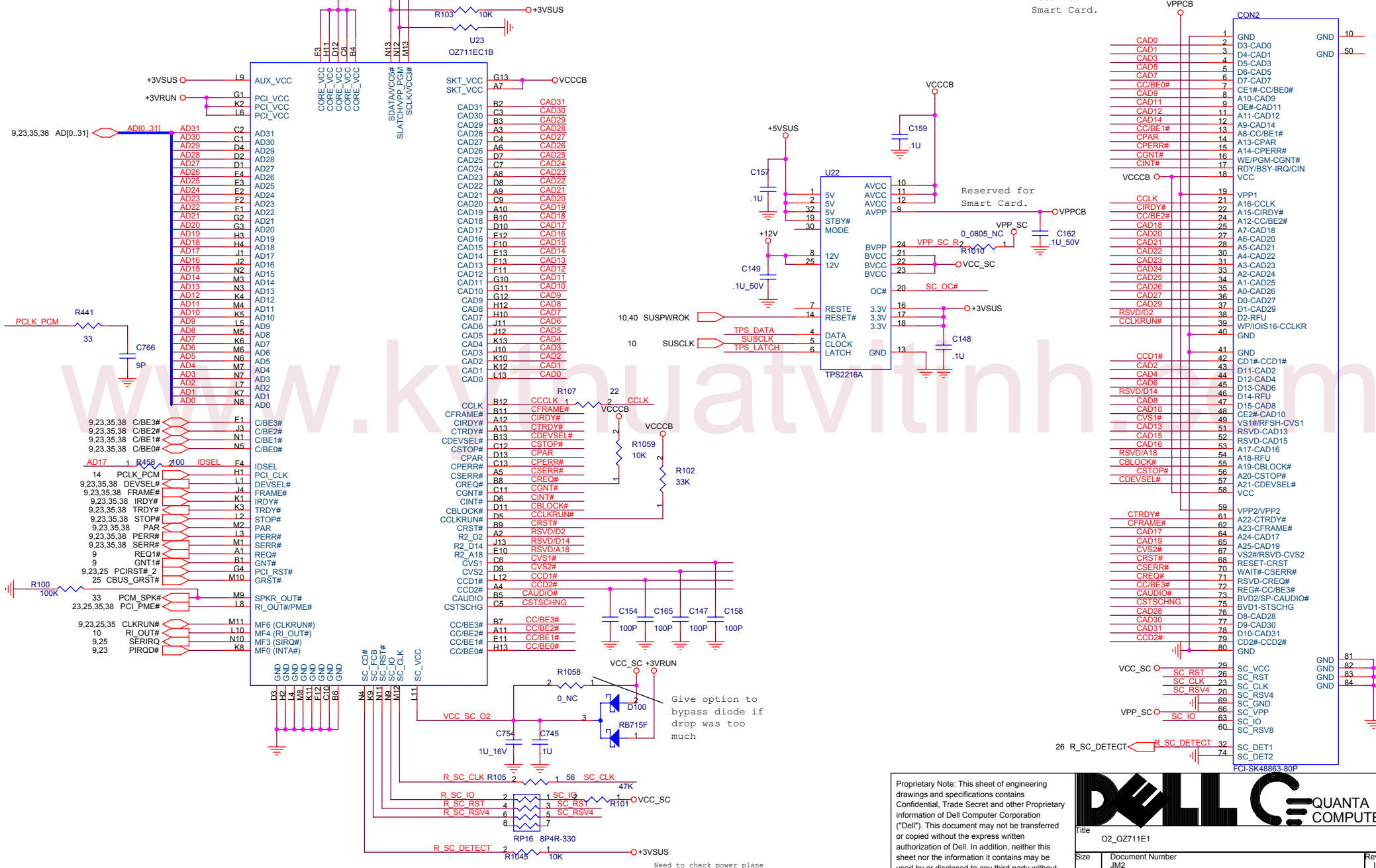


Title			SCREW PAD
Size	Document Number	Rev	
	JM2	13A	
Date:	Tuesday, August 12, 2003	Sheet	21 of 51



CardBus+Smart Card: Keep SCB to high  
 CardBus only: Keep SCB to low

Reserved for Smart Card.



Pin	Signal Name	Signal Name	Pin	Signal Name	Signal Name
1	GND	GND	41	GND	GND
2	D3-CAD0	D3-CAD0	42	CD1#-CCD1#	CD1#-CCD1#
3	D4-CAD1	D4-CAD1	43	D11-CAD2	D11-CAD2
4	D5-CAD3	D5-CAD3	44	D12-CAD4	D12-CAD4
5	D6-CAD5	D6-CAD5	45	D13-CAD6	D13-CAD6
6	D7-CAD7	D7-CAD7	46	D14-RFU	D14-RFU
7	CC/BE0#	CC/BE0#	47	D15-CAD8	D15-CAD8
8	CAD9	A10-CAD9	48	CAD10	CE2#-CAD10
9	CAD11	OE#-CAD11	49	CVS1#	VS1#/RFSH-CVS1
10	CAD12	A11-CAD12	50	CAD13	RSVD-CAD13
11	CAD14	A9-CAD14	51	CAD15	RSVD-CAD15
12	CC/BE1#	A8-CC/BE1#	52	CAD16	A17-CAD16
13	CPAR	A13-CPAR	53	RSVD/A18	A18-RFU
14	CPERR#	A14-CPERR#	54	CBLOCK#	A19-CBLOCK#
15	CGNT#	WE/PGM-CGNT#	55	CSTOP#	A20-CSTOP#
16	GINT#	RDY/BSY-IRQ/CIN	56	CDEVEL#	A21-CDEVEL#
17	VCC	VCC	57	VCC	VCC
18	VPP1	A16-CCLK	58	VCC	VCC
19	A16-CCLK	A15-CIRDY#	59	VPP2/VPP2	VPP2/VPP2
20	A15-CIRDY#	A12-CC/BE2#	60	A22-CTRDY#	A22-CTRDY#
21	A12-CC/BE2#	A7-CAD18	61	A23-CFRAME#	A23-CFRAME#
22	A7-CAD18	A6-CAD20	62	A24-CAD17	A24-CAD17
23	A6-CAD20	A5-CAD21	63	A25-CAD19	A25-CAD19
24	A5-CAD21	A4-CAD22	64	VS2#	VS2#/RSVD-CVS2
25	A4-CAD22	A3-CAD23	65	RSVD-CVS2	RSVD-CVS2
26	A3-CAD23	A1-CAD25	66	CSERR#	WAIT#-CSERR#
27	A1-CAD25	D0-CAD27	67	CREQ#	REG#-CC/BE3#
28	D0-CAD27	D1-CAD29	68	CC/BE3#	BVD2/SP-CAUDIO#
29	D1-CAD29	D2-RFU	69	CAUDIO#	BVD1-STSCHG
30	D2-RFU	WP/IOIS16-CCLKR	70	CSTSCHNG	D8-CAD28
31	WP/IOIS16-CCLKR	GND	71	CAD28	D9-CAD30
32	GND	GND	72	CAD30	D10-CAD31
33	GND	GND	73	CAD31	CD2#-CCD2#
34	GND	GND	74	CCD2#	GND
35	GND	GND	75	GND	GND
36	GND	GND	76	GND	GND
37	GND	GND	77	GND	GND
38	GND	GND	78	GND	GND
39	GND	GND	79	GND	GND
40	GND	GND	80	GND	GND
41	GND	GND	81	GND	GND
42	GND	GND	82	GND	GND
43	GND	GND	83	GND	GND
44	GND	GND	84	GND	GND

Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent.

QUANTA COMPUTER

Title: O2\_OZ711E1

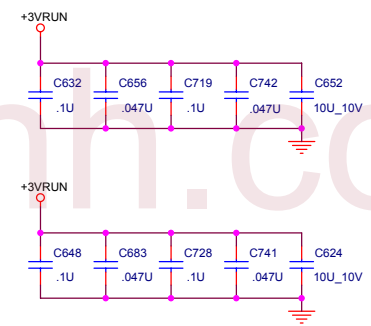
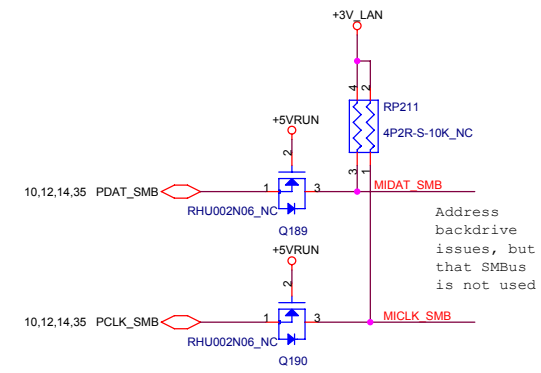
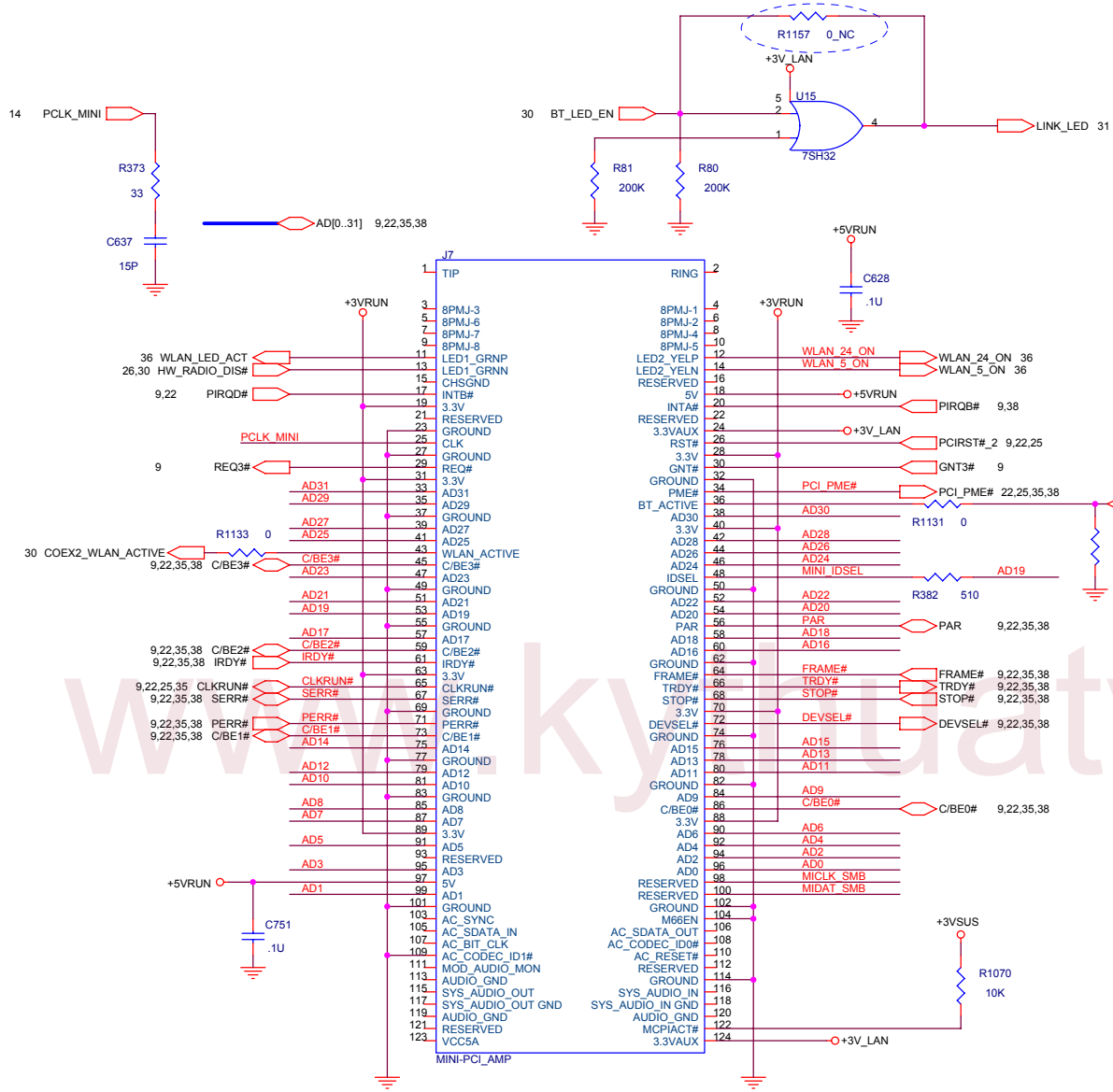
Size: Document Number JM2

Date: Tuesday, August 12, 2003

Sheet 22 of 51

Rev 13L

Need to check power plane



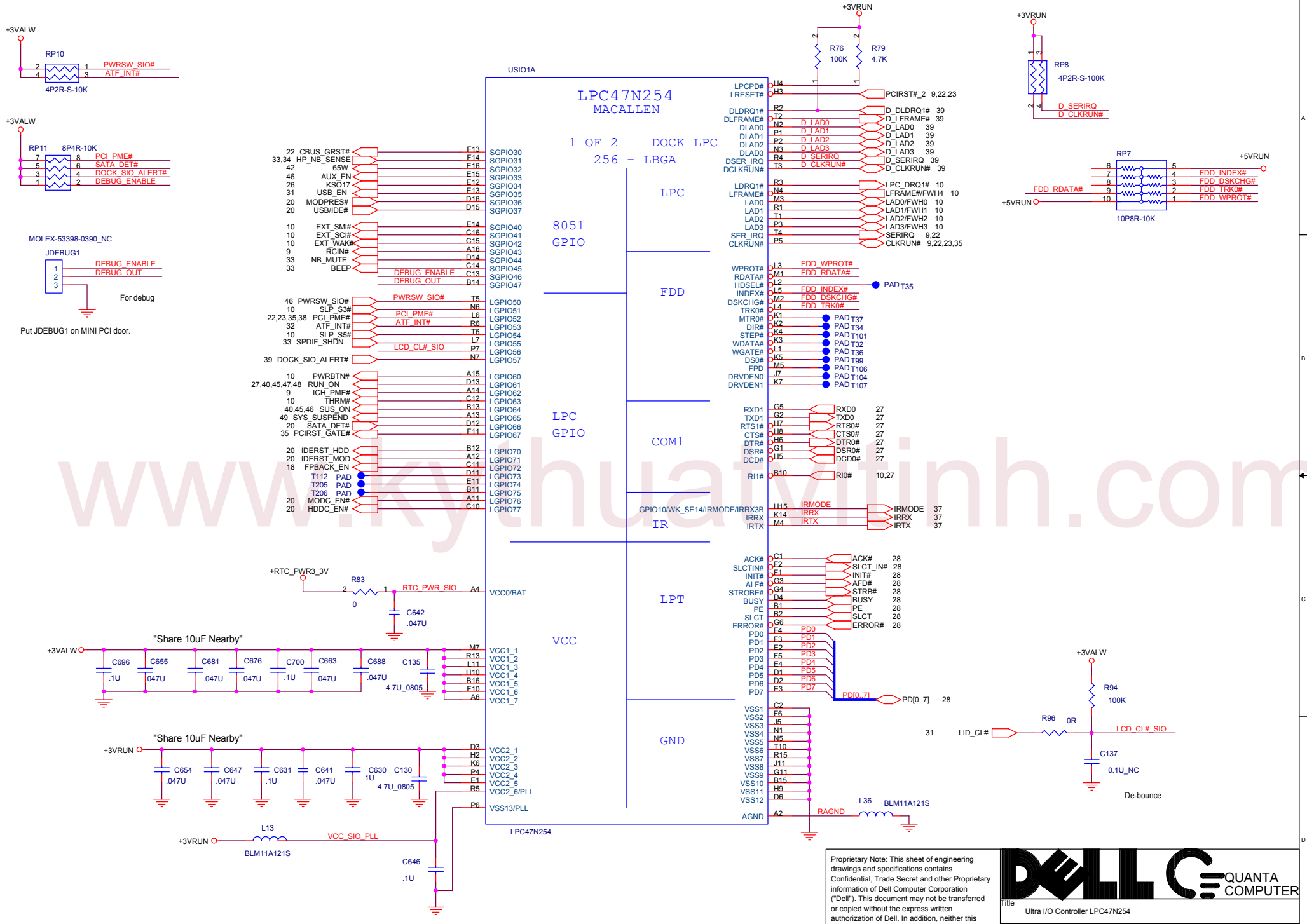
Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent."



Title MINI-PCI &MDC		
Size	Document Number JM2	Rev J3A
Date:	Tuesday, August 12, 2003	Sheet 23 of 51



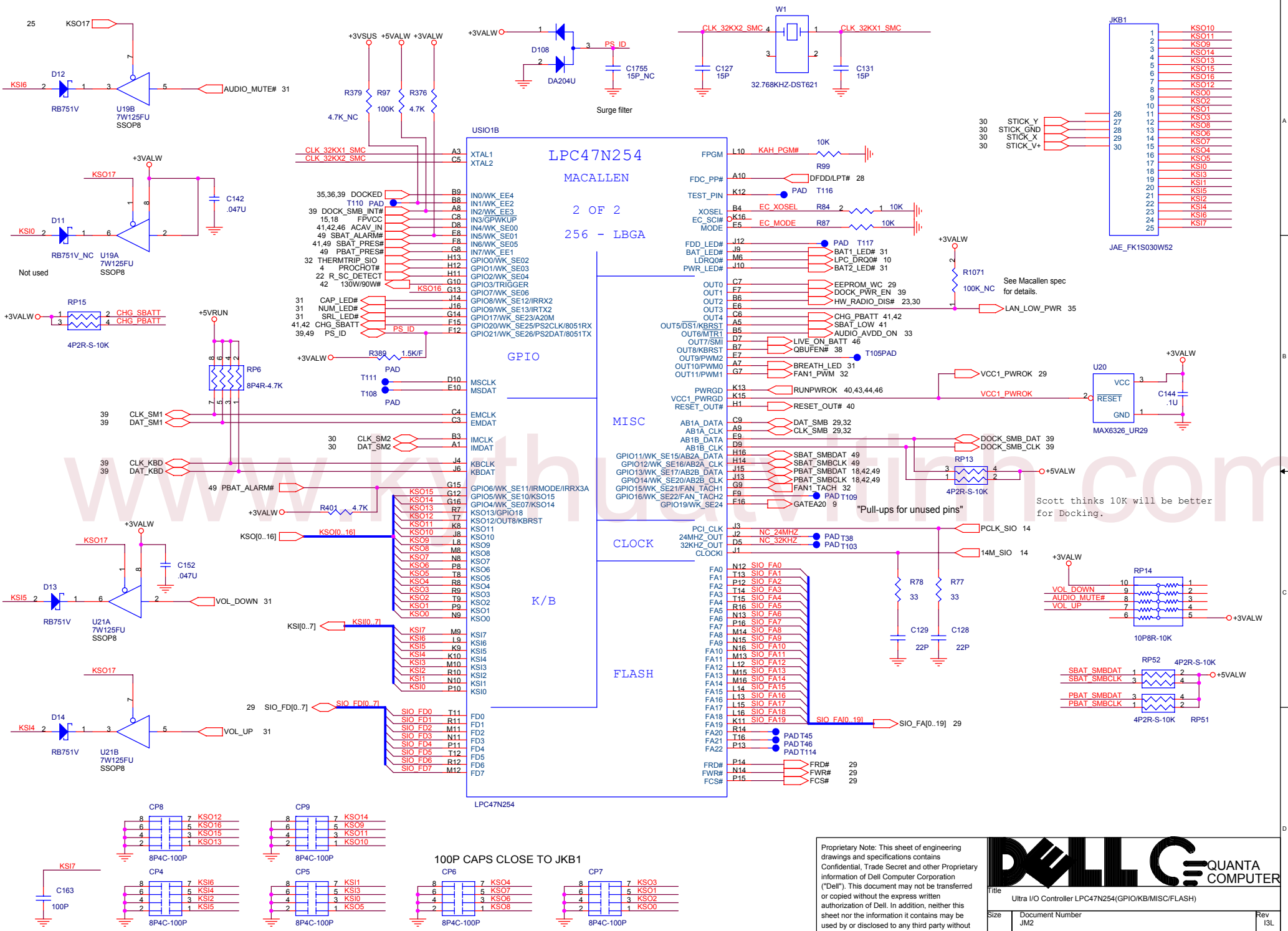




Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent.



Title Ultra I/O Controller LPC47N254		
Size	Document Number JM2	Rev 13L
Date:	Tuesday, August 12, 2003	Sheet 25 of 51



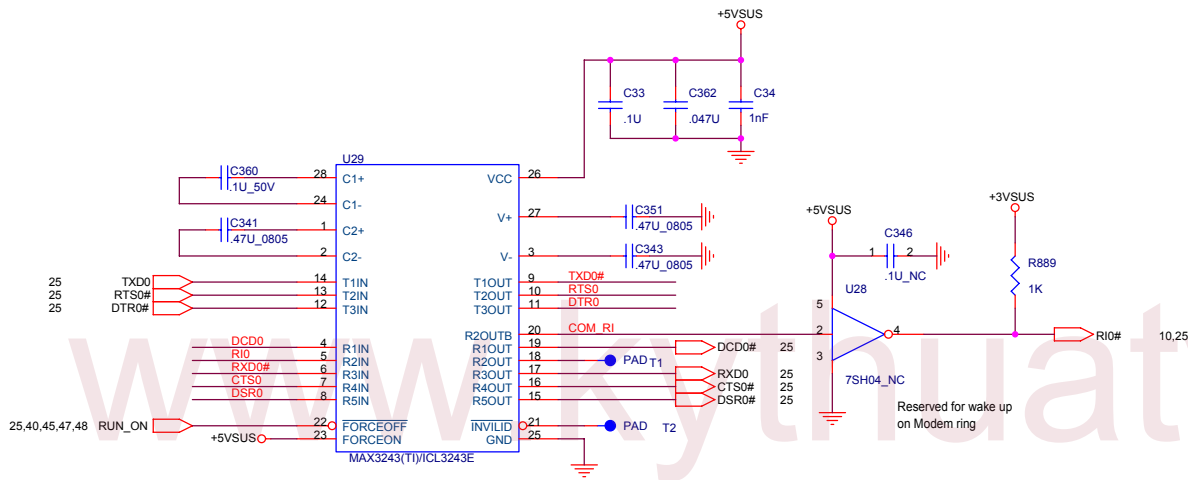
Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent.

QUANTA COMPUTER

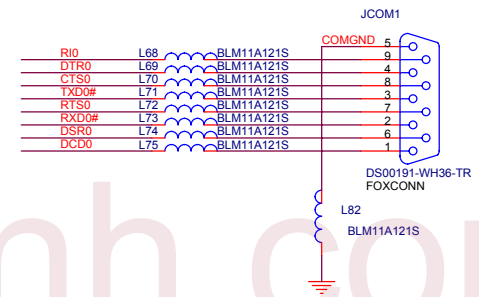
File: Ultra I/O Controller LPC47N254(GPIO/KB/MISC/FLASH)

Size	Document Number	Rev
	JM2	13L

Date: Tuesday, August 12, 2003 Sheet 26 of 51



If MAX3243 pin 22 tied to RUN\_ON, then it can not support Ring Out

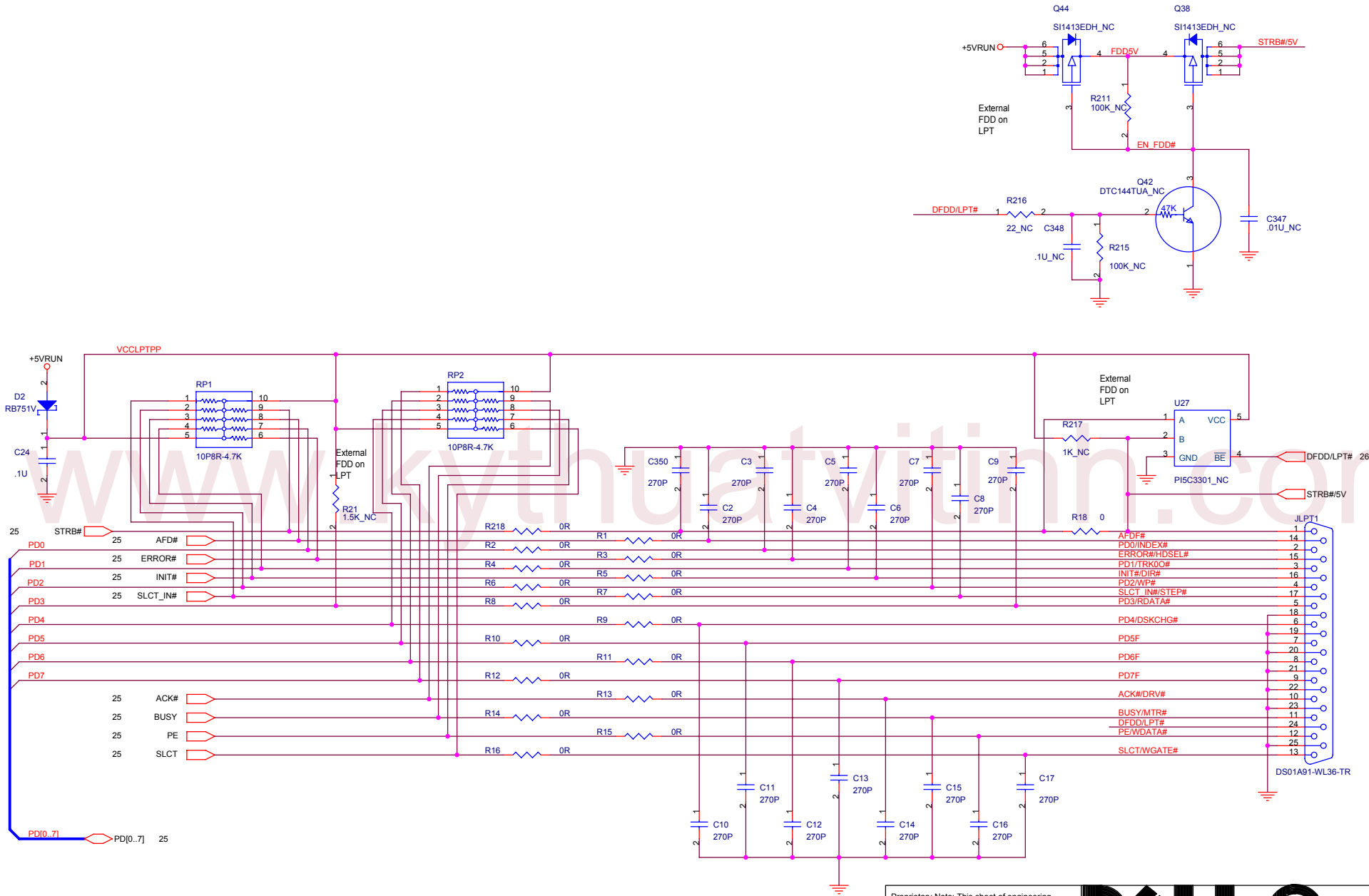


Place these beads close to JCOM1 as soon as possible

Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent.

**DELL** **QUANTA**  
**COMPUTER**

File	SERIAL PORT	
Size	Document Number	Rev
	JM2	I3L
Date:	Tuesday, August 12, 2003	Sheet 27 of 51

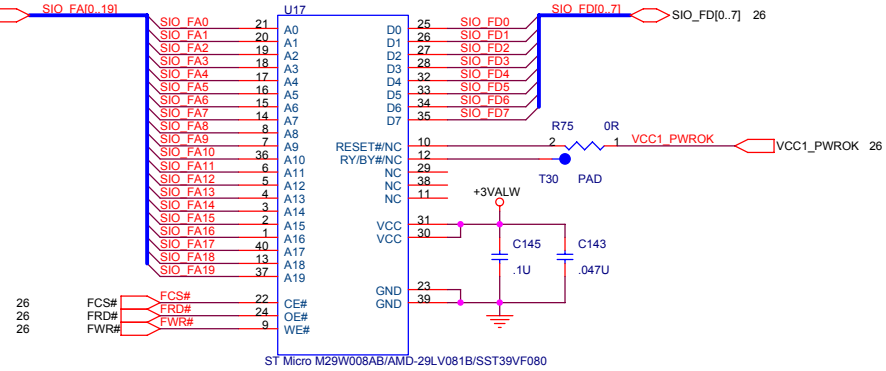
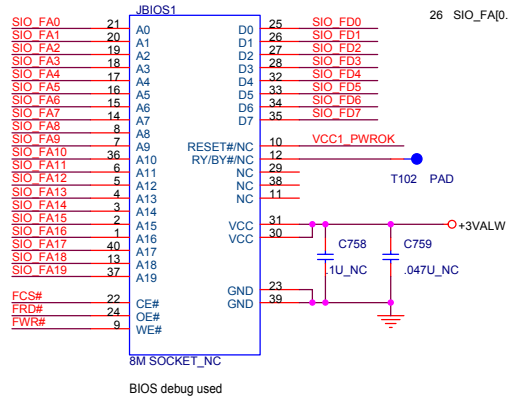


Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent."



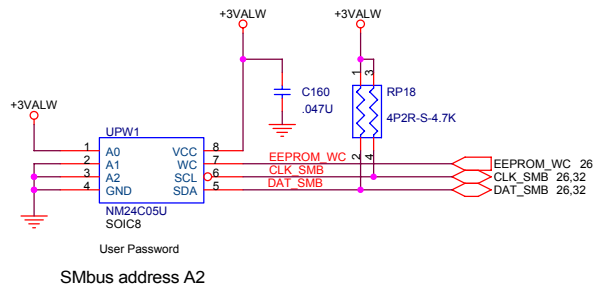
File	PARALLEL CONN.	
Size	Document Number JM2	Rev 13L
Date:	Tuesday, August 12, 2003	Sheet 28 of 51

8Mbit (1M Byte),NO PLCC TYPE



AMD :Pin 10 is RESET# ; Pin12 is RY/BY#  
SST :Pin10,12 are NC

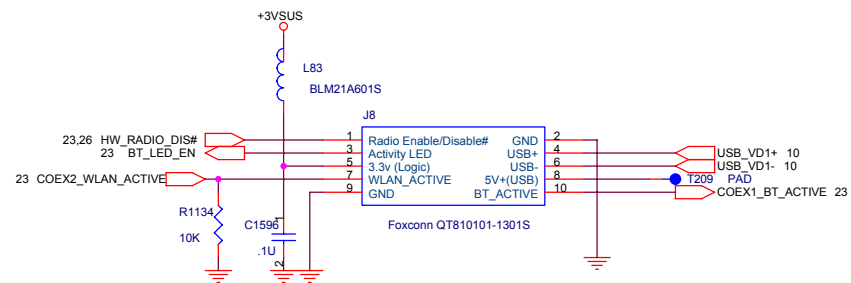
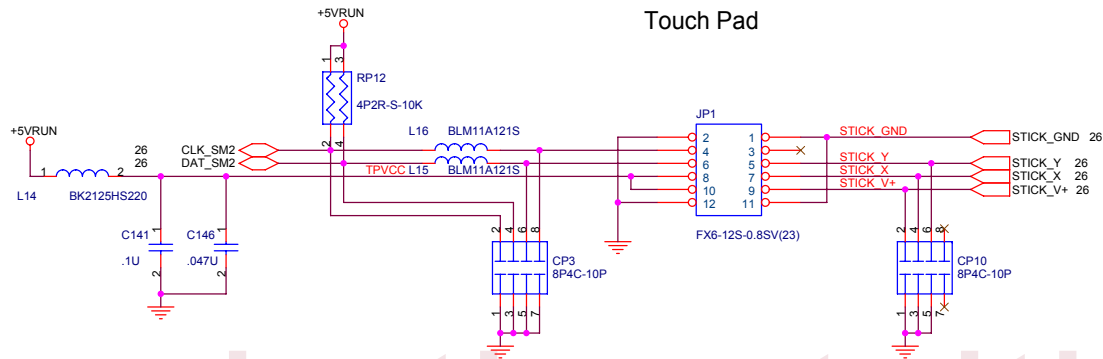
- 1.AMD-29LV081B require MAX 500nS Tready for it's hardware reset.And MAX6326\_UR29 has >100mS reset timing.So we can tie it's reset# pin to +3VALW directly.
- 2.SIO has internal 20 mS delay of VCC1\_PWROK



Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent."

QUANTA COMPUTER

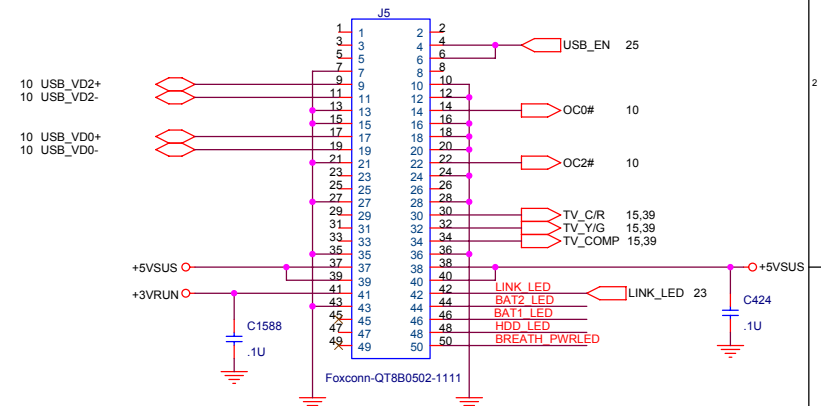
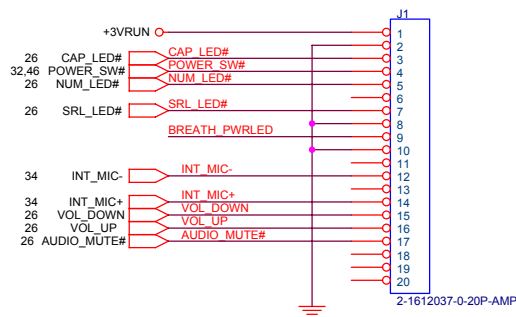
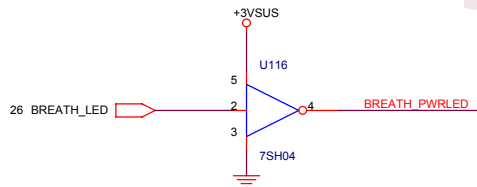
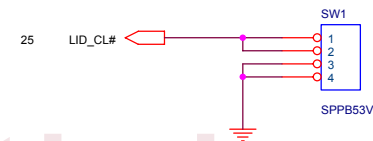
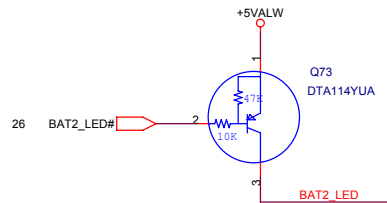
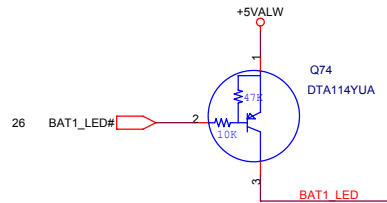
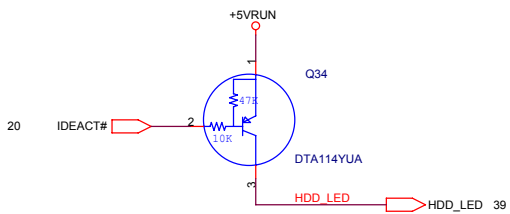
Title		FLASH
Size	Document Number	Rev
	JM2	13L
Date:	Tuesday, August 12, 2003	Sheet 29 of 51



www.kythuaviet.com

Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent."

File: TOUCH PAD & BULE TOOTH		
Size: Document Number	Rev: I3A	
Date: Tuesday, August 12, 2003		Sheet: 30 of 51



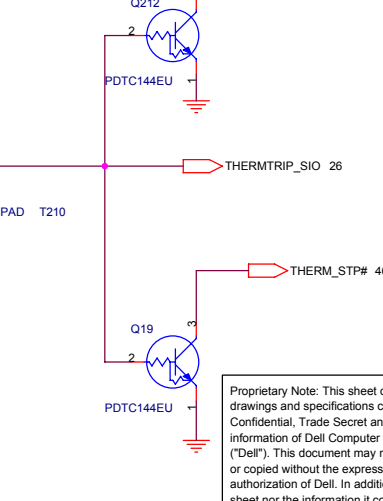
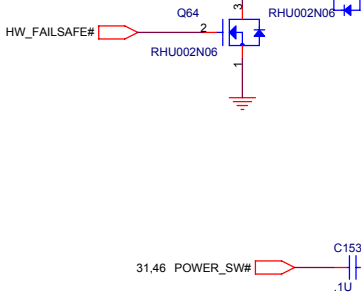
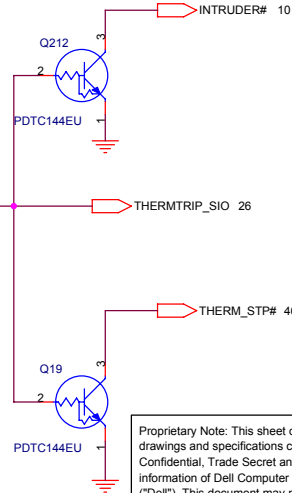
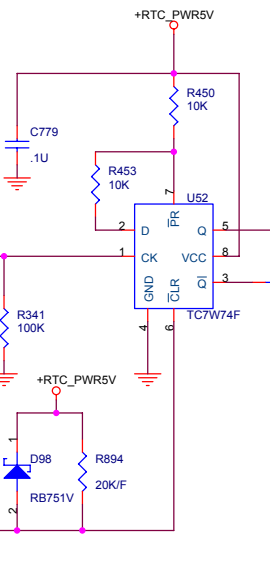
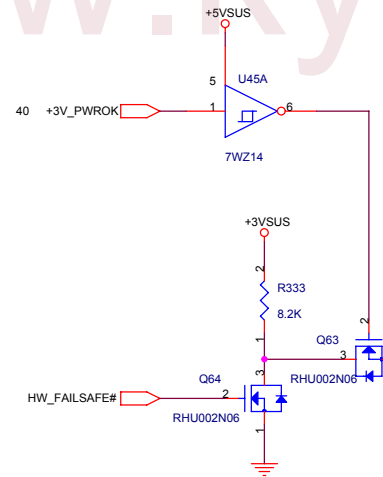
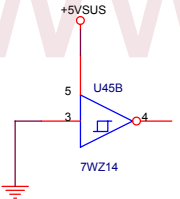
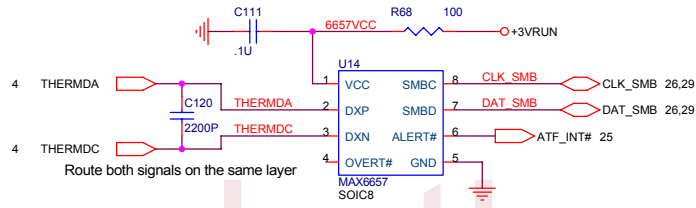
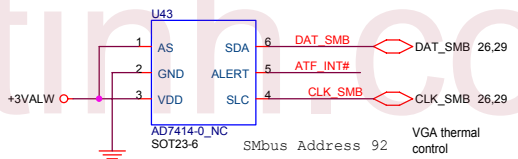
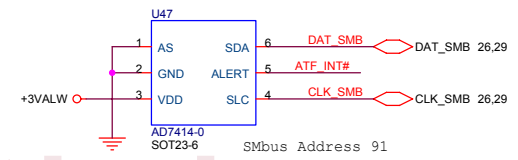
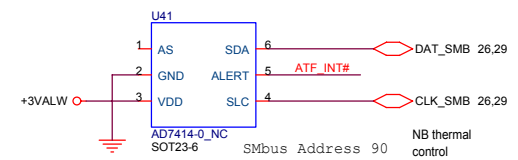
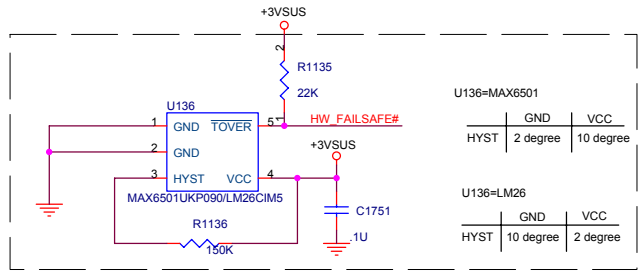
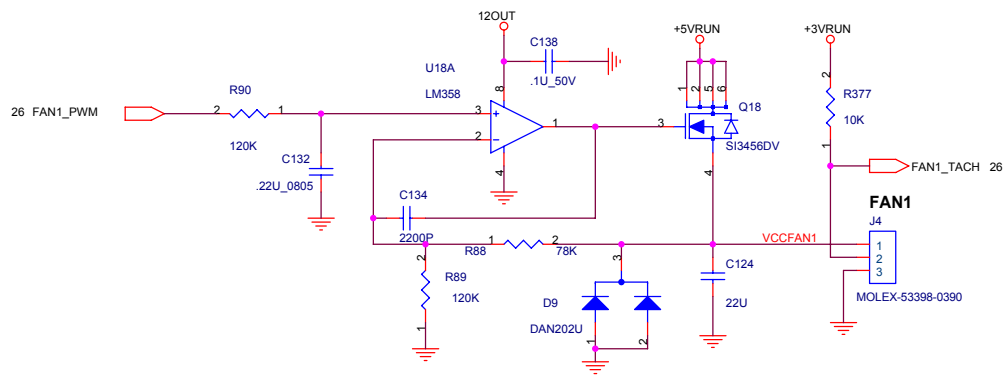
Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent."

**DELL** QUANTA COMPUTER

File: SWITCH & LED

Size	Document Number	Rev
	JM2	I3G
Date:	Tuesday, August 12, 2003	Sheet 31 of 51

www.kythuatchinh.com



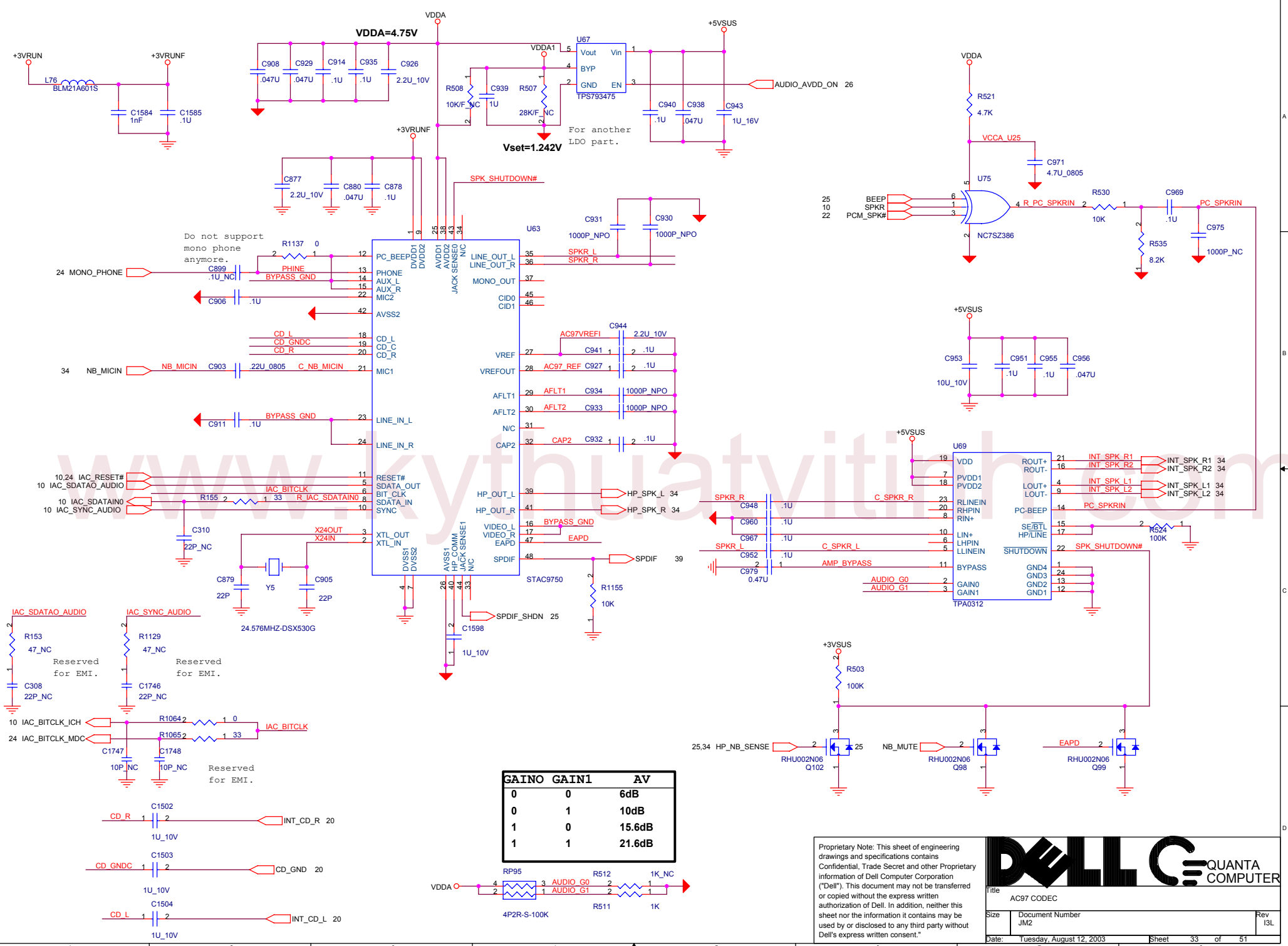
www.kythuativitinh.com

Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent."



File	FAN & THERMAL	
Size	Document Number	Rev
	JM2	I3L
Date:	Tuesday, August 12, 2003	Sheet 32 of 51





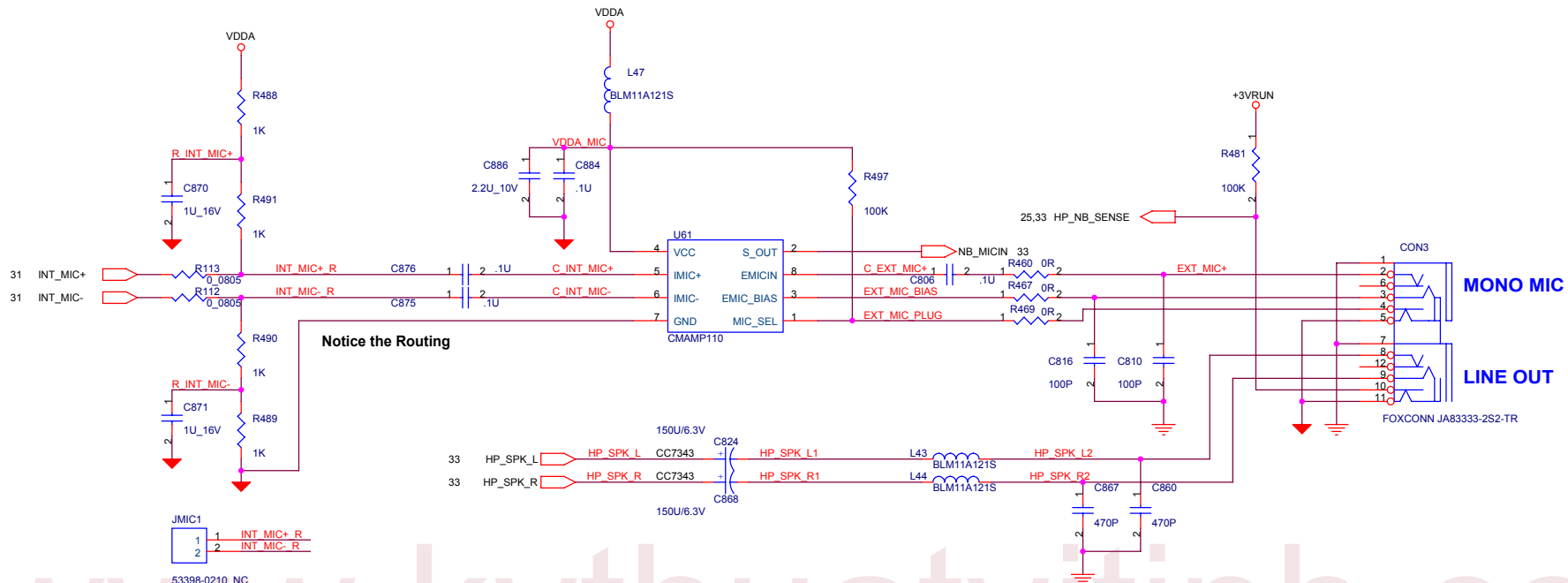
GAIN0	GAIN1	AV
0	0	6dB
0	1	10dB
1	0	15.6dB
1	1	21.6dB

Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent.

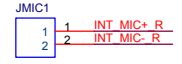
file AC97 CODEC

Size	Document Number	Rev
	JM2	I3L

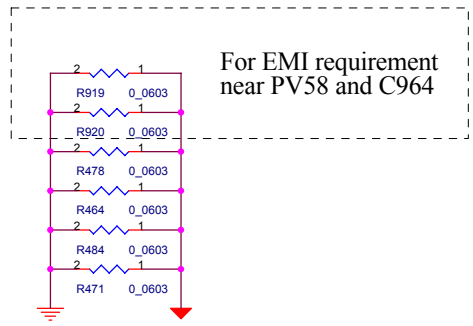
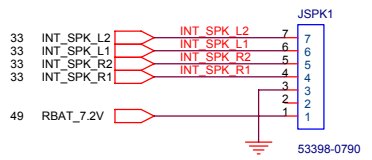
Date: Tuesday, August 12, 2003 Sheet 33 of 51



Notice the Routing



53398-0210\_NC  
Option for  
wired MIC



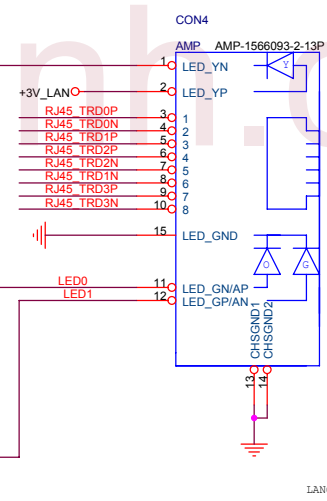
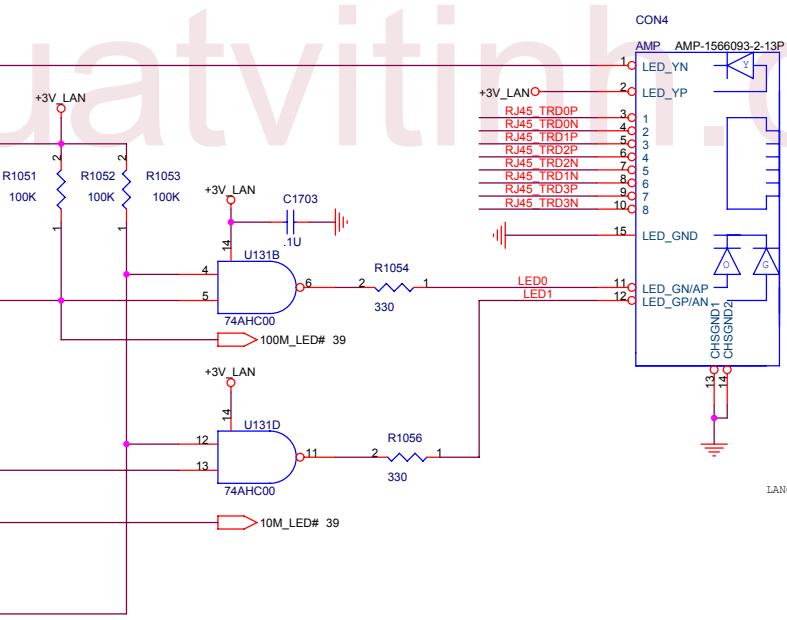
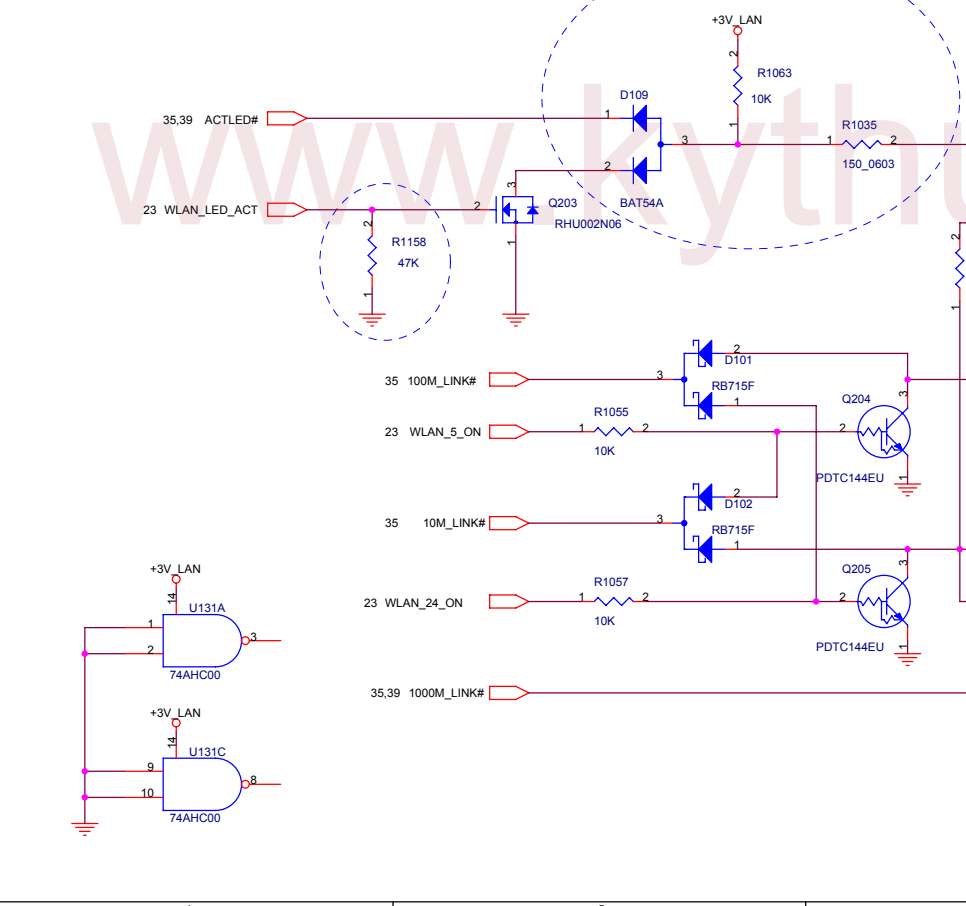
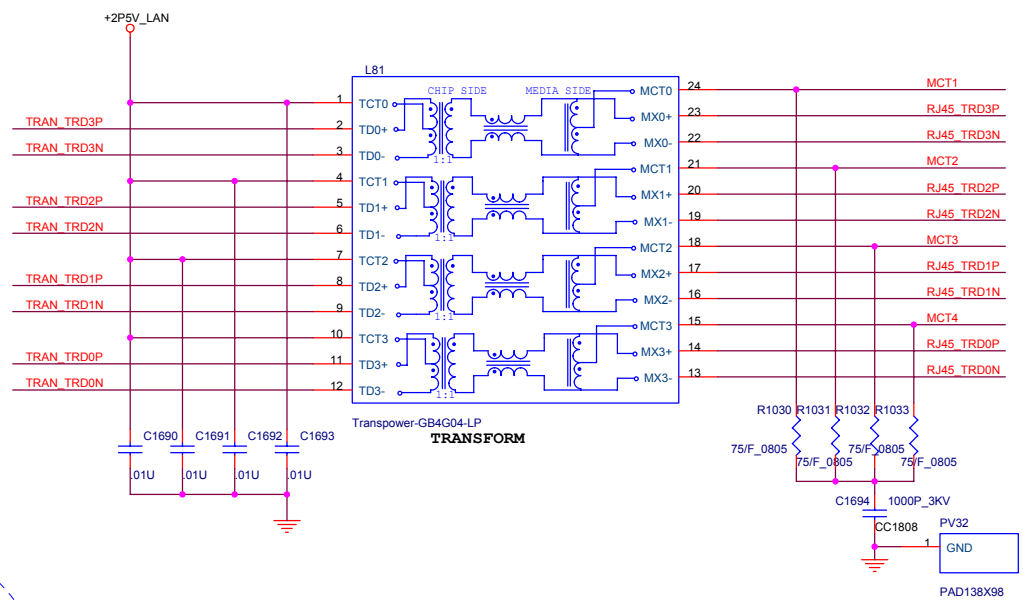
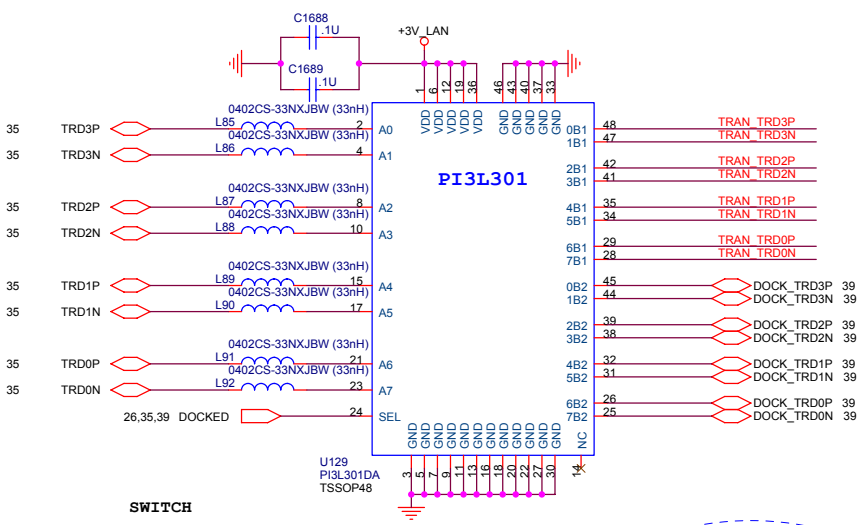
www.kythuatvithinh.com

Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent."



Title		AUDIO CONN	
Size	Document Number	Rev	
	JM2	I3L	
Date:	Tuesday, August 12, 2003	Sheet	34 of 51

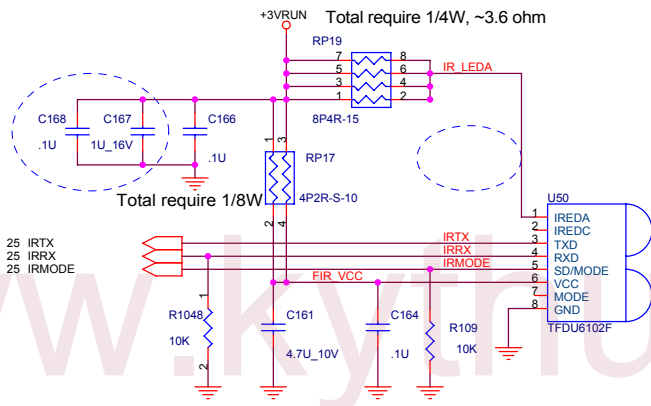




Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent."



File	LAN JACK	
Size	Document Number	Rev
	JM2	J3A
Date:	Tuesday, August 12, 2003	Sheet 36 of 51



www.kyathuatvith.com

Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent."



File	FIR		Rev	J3A
Size	Document Number	JM2		
Date:	Tuesday, August 12, 2003	Sheet	37	of 51

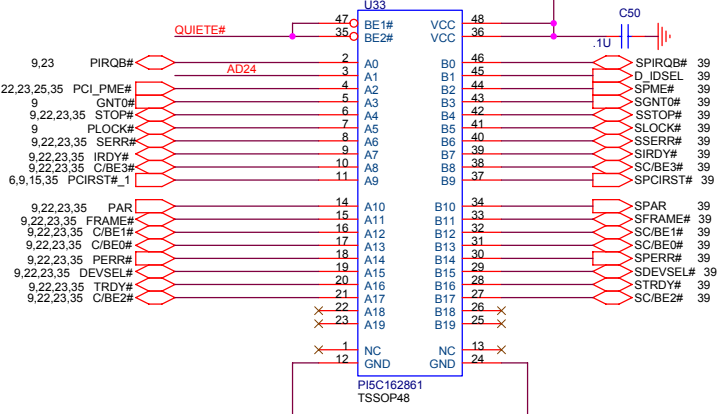
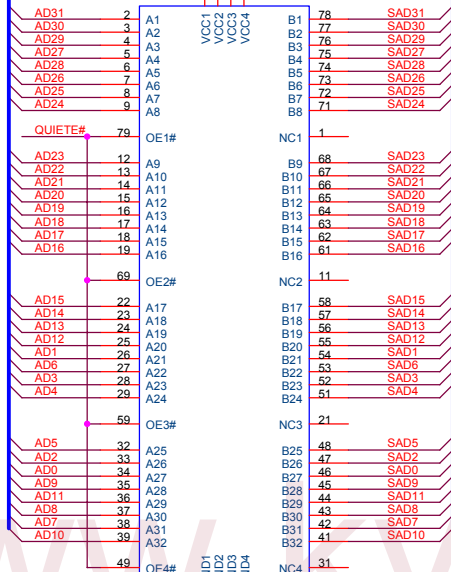
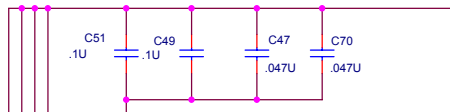
9.22.23.35 AD[0..31] ADI0\_311

VCC\_QBUF

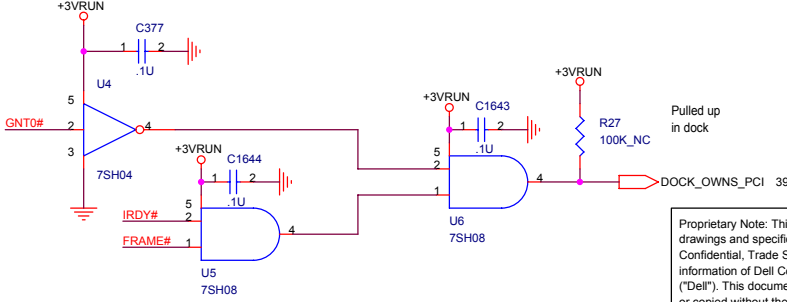
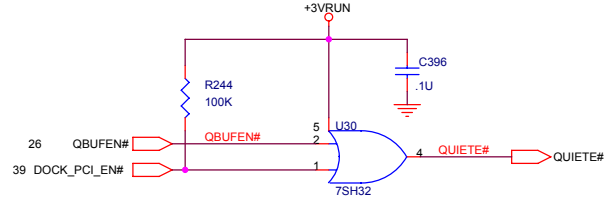
D6

D8

VCC\_QBUFD +5VRUN



www.thuathvithinh.com

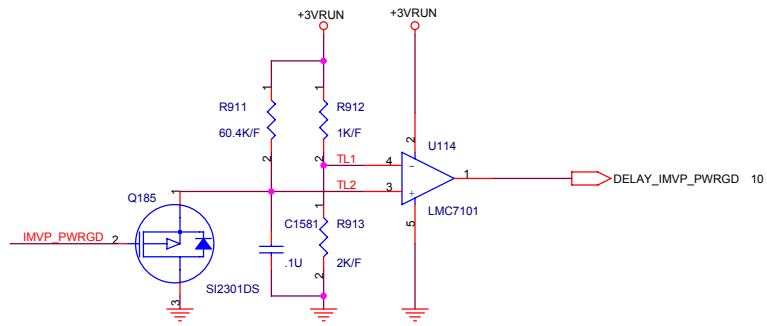
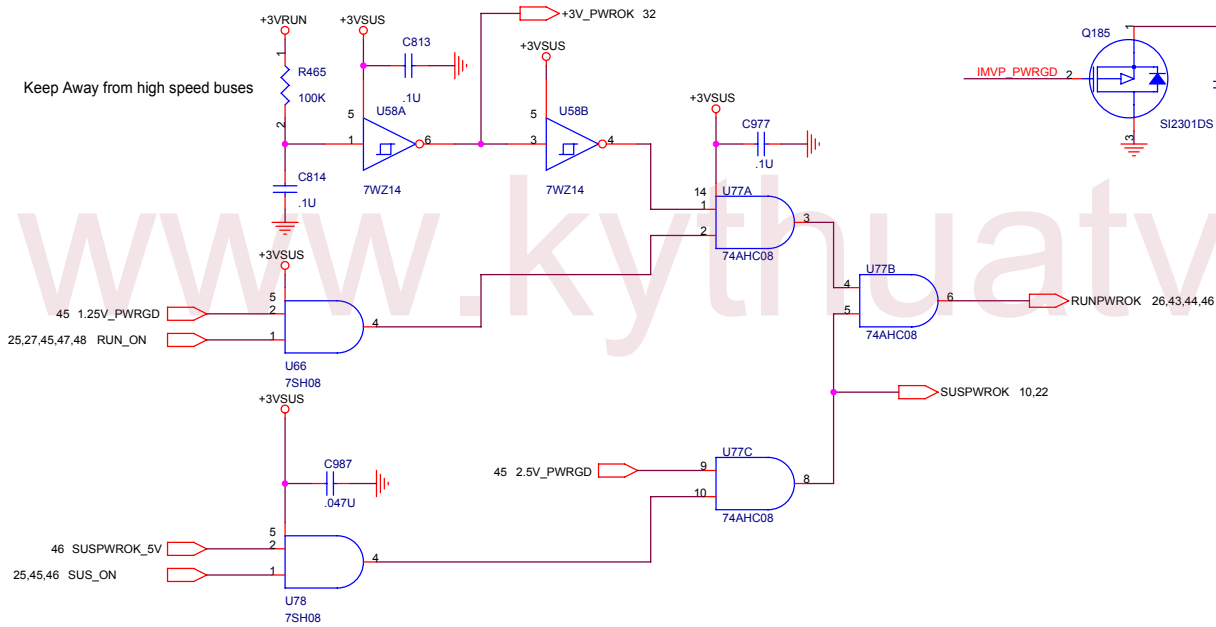
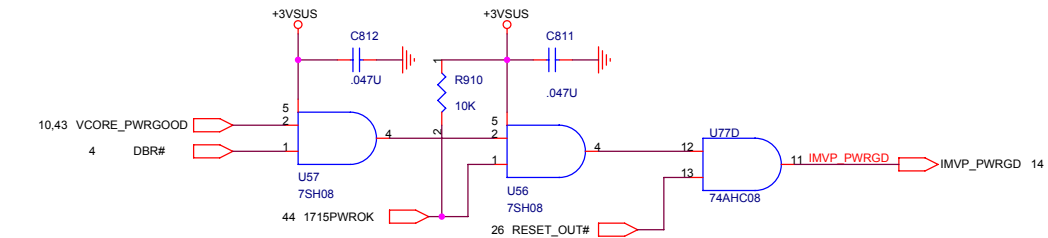


Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent."



Title: Docking Q-SWITCH		
Size: Document Number JM2	Rev: I3L	
Date: Tuesday, August 12, 2003	Sheet: 38	of: 51



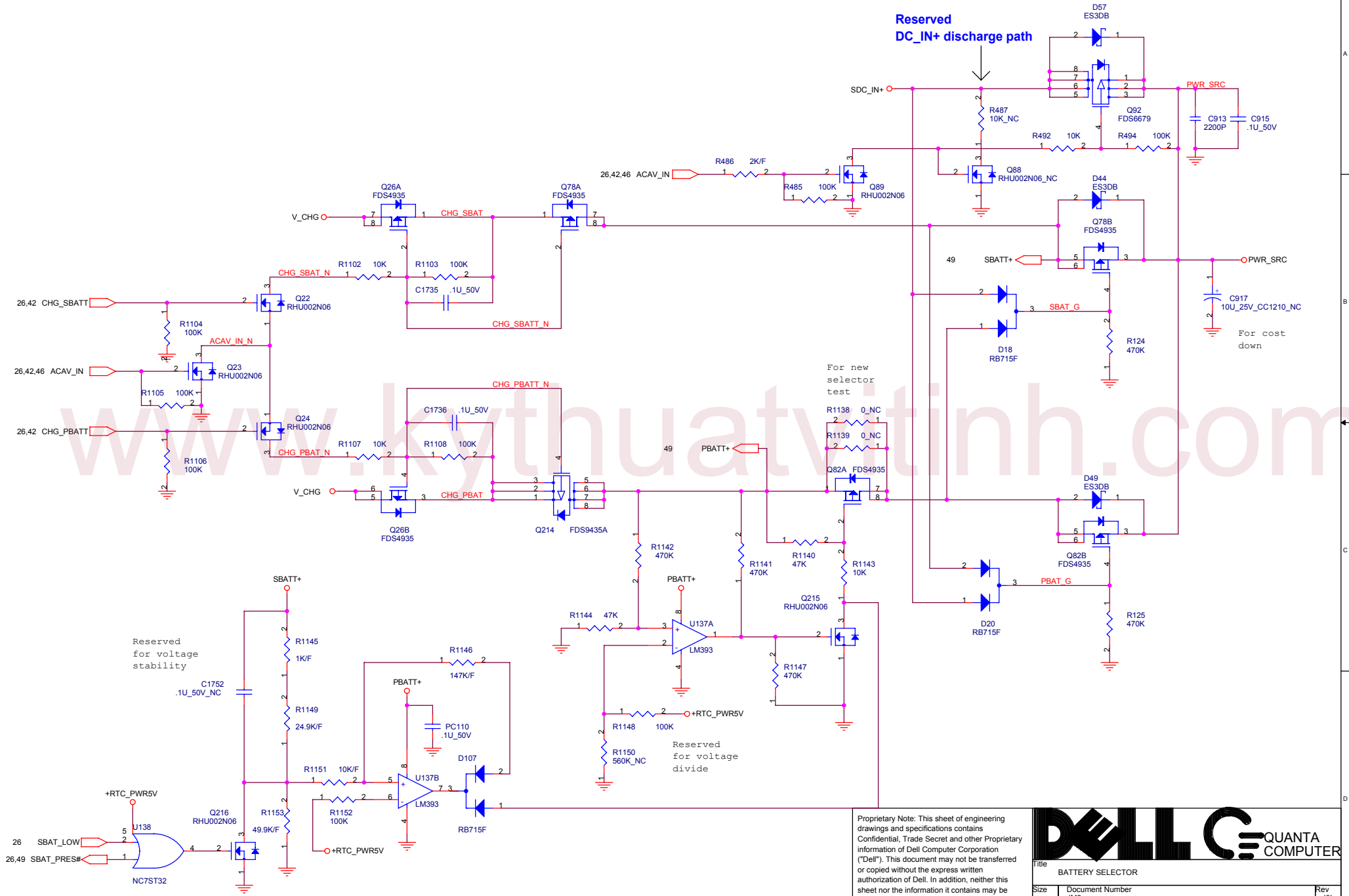


Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent."

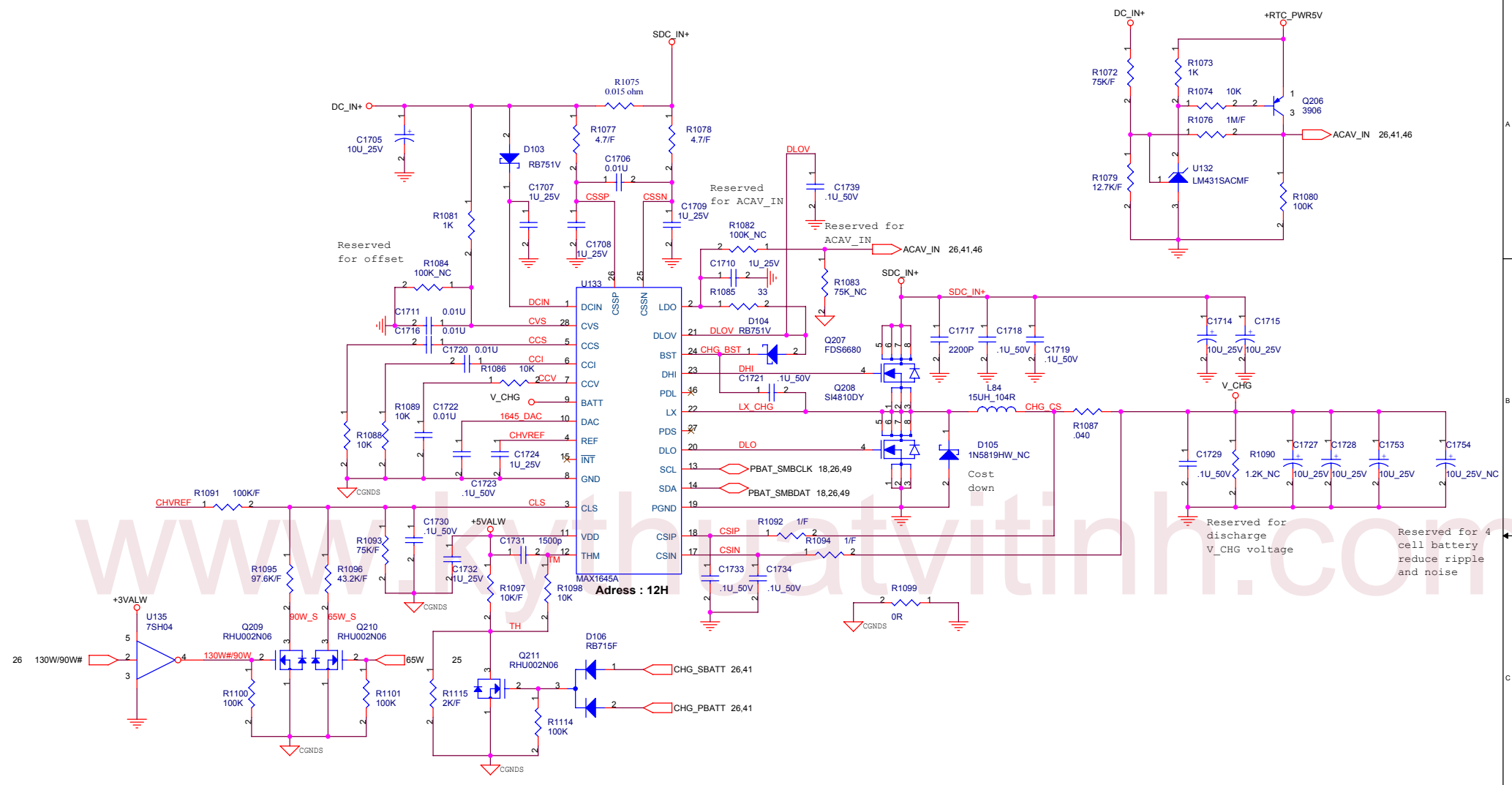


File	POWER GOOD		Rev	11A
Size	Document Number			
	JM2			
Date:	Tuesday, August 12, 2003	Sheet	40	of 51





File: BATTERY_SELECTOR		
Size:	Document Number: JM2	Rev: 13L
Date:	Tuesday, August 12, 2003	Sheet: 41 of 51

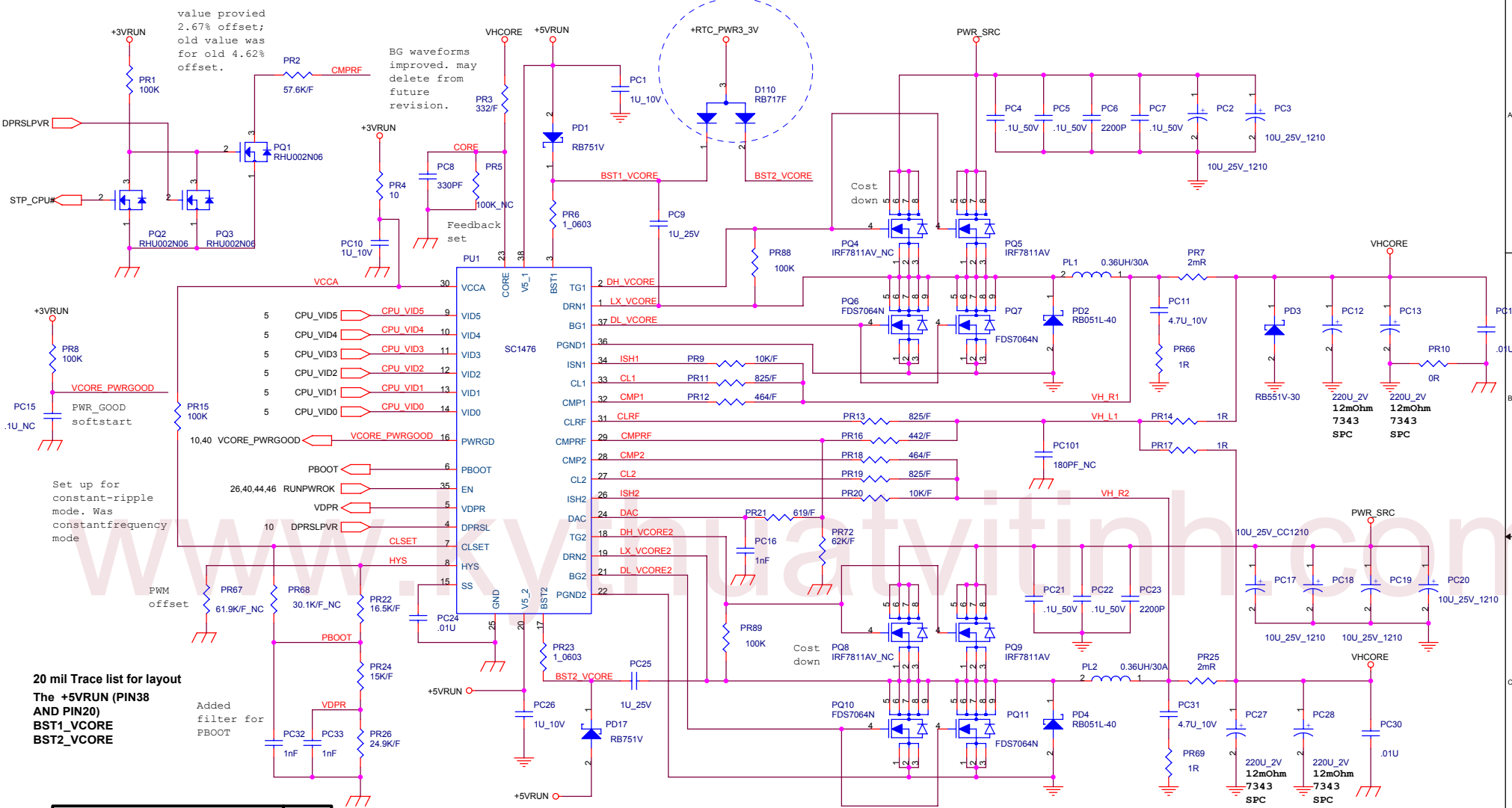


	65W ( 2.48A )	90W ( 4.0A )	130W ( 5.8A )
65W	H	L	L
130W/90W#	H	L	H

Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent."

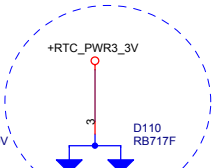


Title Battery Charger		
Size	Document Number JM2	Rev 13L
Date	Tuesday, August 12, 2003	Sheet 42 of 51



value provided  
2.67% offset;  
old value was  
for old 4.62%  
offset.

BG waveforms  
improved. may  
delete from  
future  
revision.



Set up for  
constant-ripple  
mode. Was  
constant frequency  
mode

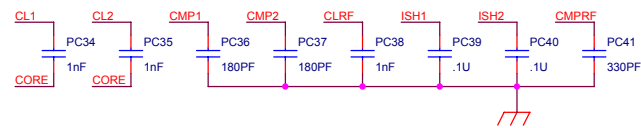
20 mil Trace list for layout  
The +5VRUN (PIN38  
AND PIN20)  
BST1\_VCORE  
BST2\_VCORE

V I D							Vcore
VID 5	VID 4	VID 3	VID 2	VID 1	VID 0	V	
0	1	0	1	1	1	1.340	
0	1	1	0	0	0	1.324	
0	1	1	0	1	0	1.292	
0	1	1	1	0	0	1.260	
0	1	1	1	0	1	1.244	
0	1	1	1	1	1	1.212	
1	0	0	0	0	1	1.180	
1	0	0	0	1	1	1.148	
1	0	0	1	1	0	1.100	
1	0	1	0	0	1	1.052	
1	0	1	0	1	1	1.020	
1	0	1	1	1	0	0.972	
1	1	0	0	0	0	0.940	

100 mil Trace list for layout

DH\_VCORE  
LX\_VCORE  
DL\_VCORE  
DH\_VCORE2  
LX\_VCORE2  
DL\_VCORE2

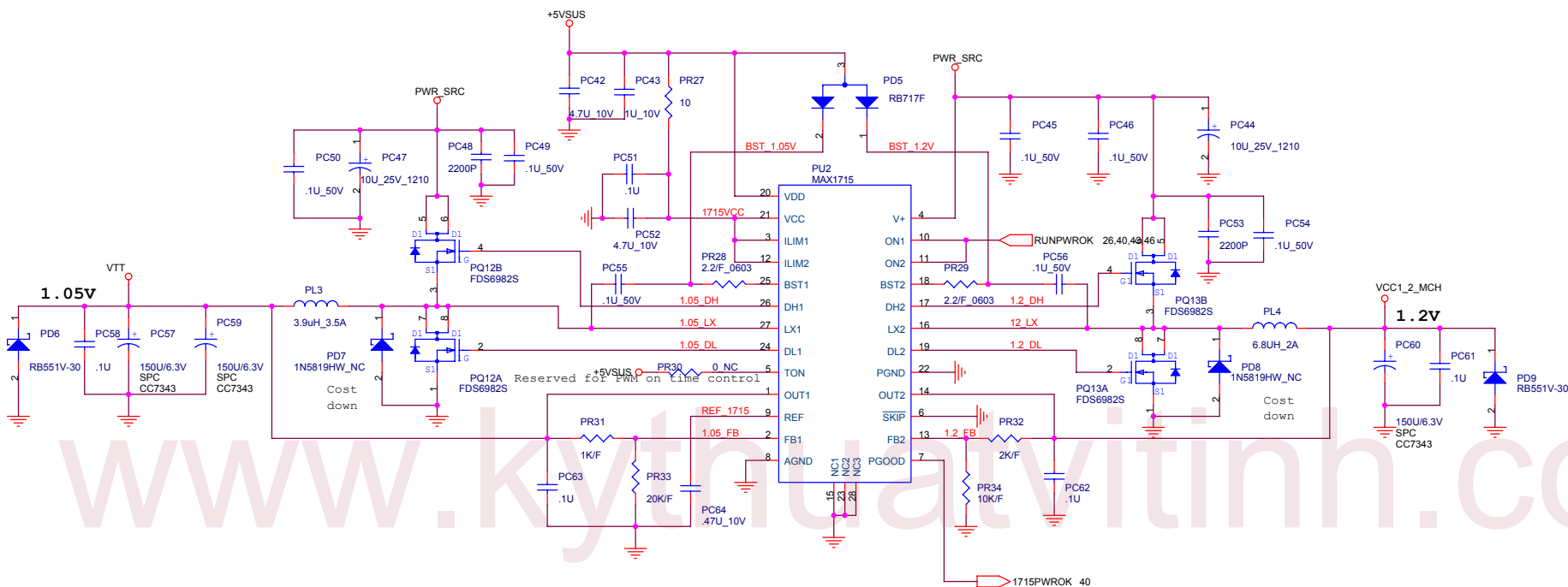
10 mil Trace list for layout  
SC1476  
pin 4 pin  
5 pin 7  
pin 25  
pin 30



Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent."



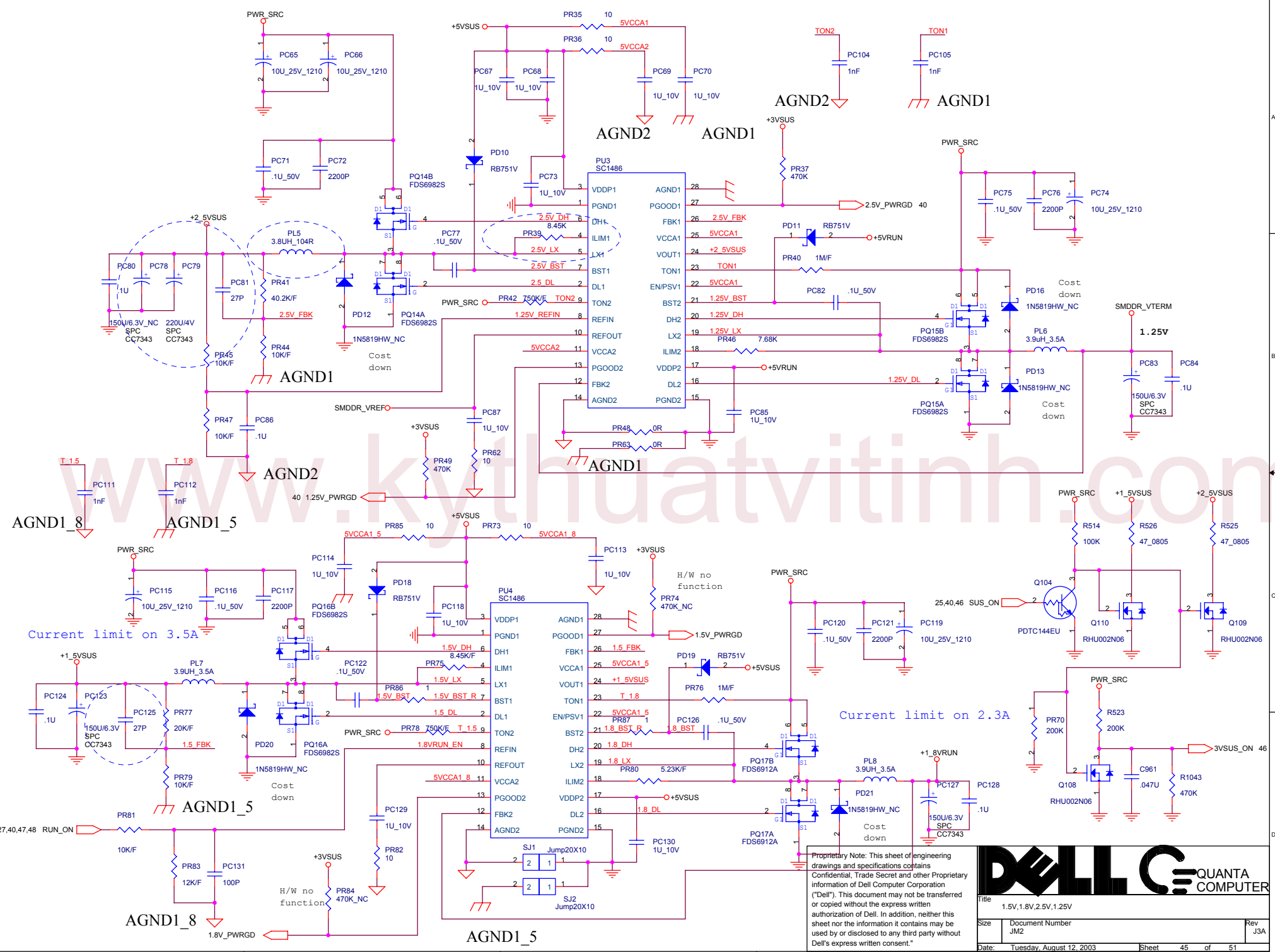
Title CPU POWER		
Size JM2	Document Number JM2	Rev J3A
Date Tuesday, August 12, 2003	Sheet 43	of 51



Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent."



Title		VTT_1.05V,VCC1_2_MCH	
Size	Document Number	Rev	
	JM2	13L	
Date:	Tuesday, August 12, 2003	Sheet	44 of 51

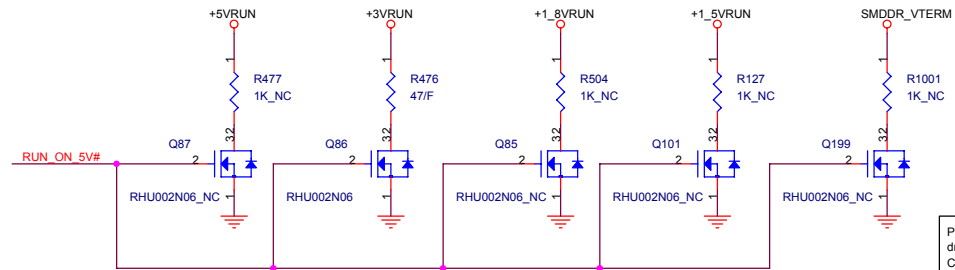
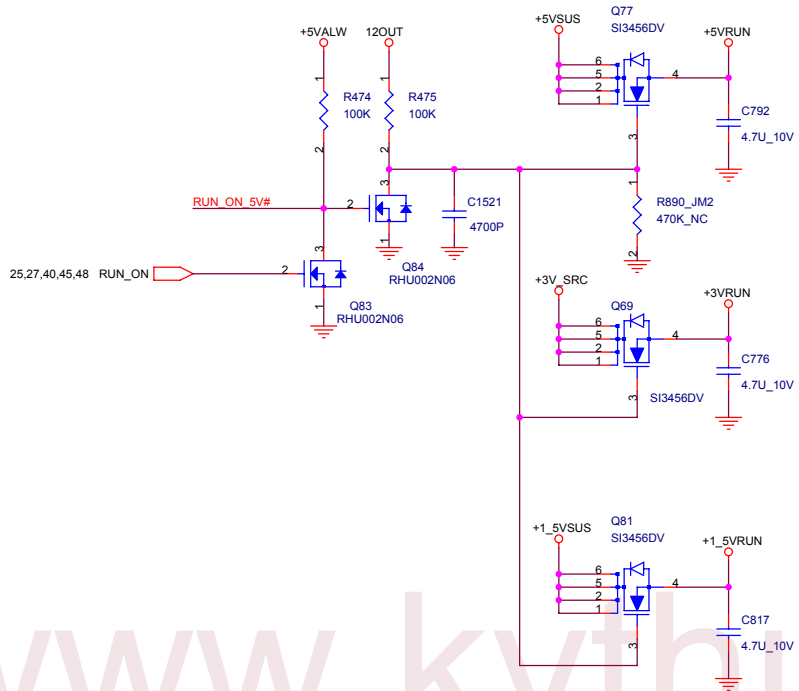


Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent."



Title		1.5V,1.8V,2.5V,1.25V	
Size	Document Number	JM2	
Date:	Tuesday, August 12, 2003	Sheet	45 of 51
		Rev	J3A





Reserve discharge path

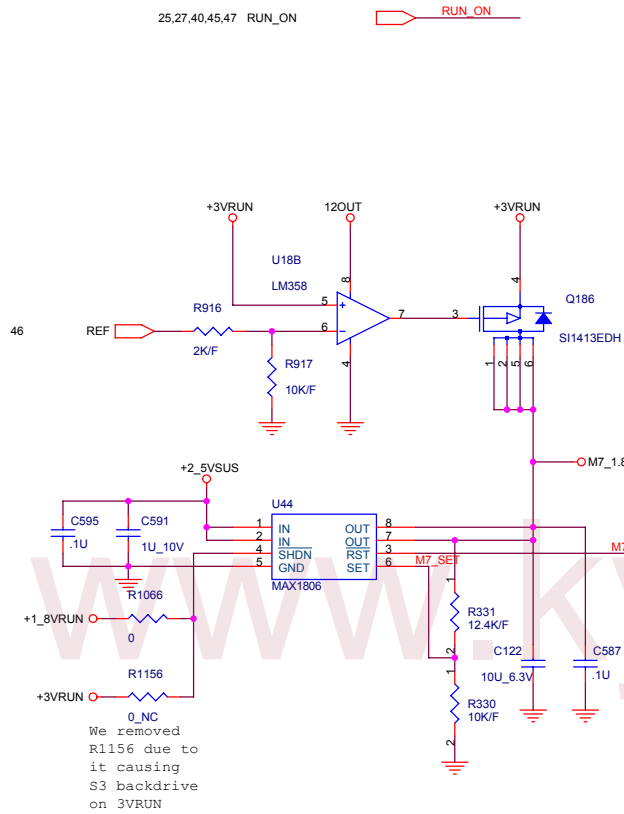
www.kythuavietinh.com

Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent."

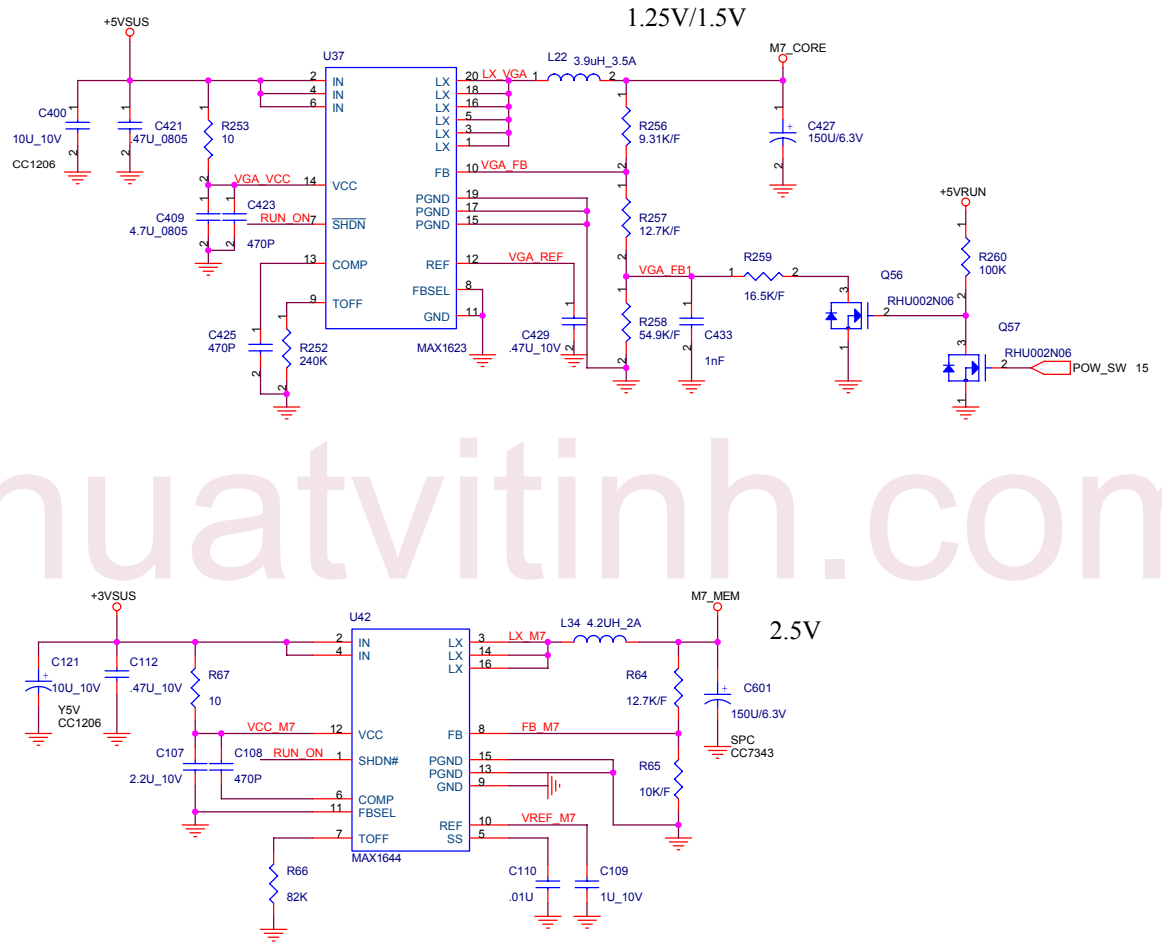


Title RUN POWER SW		
Size JM2	Document Number JM2	Rev I3L
Date Tuesday, August 12, 2003	Sheet 47 of 51	

POW_SW	M7D/M9 CSP 16 32
0	1.5V
1	1.25V



We removed R1156 due to it causing S3 backdrive on 3VRUN



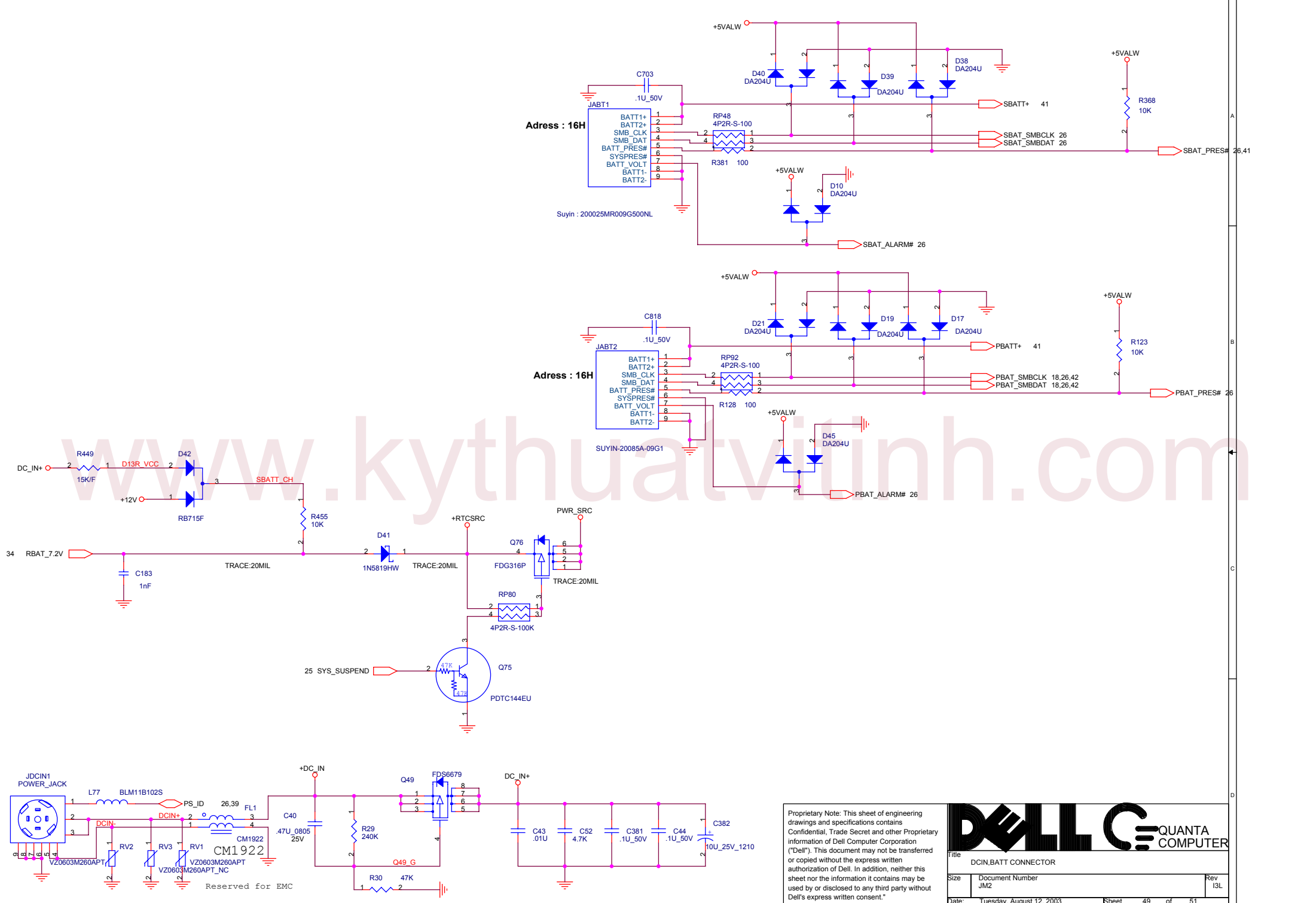
Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent."

**DELL** QUANTA COMPUTER

File: VGA DC/DC

Size	Document Number JM2	Rev 13L
Date:	Tuesday, August 12, 2003	Sheet 48 of 51





Proprietary Note: This sheet of engineering drawings and specifications contains Confidential, Trade Secret and other Proprietary information of Dell Computer Corporation ("Dell"). This document may not be transferred or copied without the express written authorization of Dell. In addition, neither this sheet nor the information it contains may be used by or disclosed to any third party without Dell's express written consent.

File DCIN.BATT CONNECTOR		
Size	Document Number JM2	Rev 13L
Date:	Tuesday, August 12, 2003	Sheet 49 of 51